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Railway Wage Claims

TWO trends can be seen in the confused situation regarding the wage claims of the three railway trades unions. The National Union of Railwaymen, which includes the lowest-paid workers, has pressed its claim for a £5 a week minimum wage for lower-paid men mainly on the ground of hardship caused by high prices. The principle of wages restraint, first accepted and recently abandoned by the Trades Union Congress, was ignored by the N.U.R. in pressing this claim. In this the union was consistent, and its conference a fortnight ago quite logically was prepared to accept the offer of the Railway Staff National Council which would have raised the lowest rate for adult male staff in conciliation grades from 92s. 6d. to 96s. a week, with a comparable adjustment for clerical staff at the corresponding level; this offer, however, as recorded in our last week's issue, was rejected by the other two railway unions. Distinct from the wish of the N.U.R. to ease the lot of the poorly paid is the fear of the craftsman to lose the differential which is the reward of his skill. This is seen in the action of the Associated Society of Locomotive Engineers & Firemen, which is largely a craft union. On grounds of wages restraint, whilst such restraint was the official T.U.C. policy, the A.S.L.E.F. refused to support the N.U.R. claim. Now, however, with wage restraint

abandoned, the Society is claiming a 15 per cent. increase for all its members because of the "unsatisfactory position with regard to relativity in railway wage rates." The third railway union, the Railway Clerks Association, which has decided to claim an increase of 7½ per cent. in the salaries of all grades, is in somewhat the same position as the A.S.L.E.F., in that it seeks to maintain relativity in wage rates (though for black-coat workers, and not for craftsmen). Both these unions are certainly losing no time in lodging their claims now that wages restraint no longer applies.

Welfare of Indian Railwaymen

FOR many years before Partition both Government and company-owned railways in India showed a keen interest in staff welfare and pursued a progressive policy in labour relations. With diverse management, however, standards were bound to differ. In the pay structure, diversity had its origin in history and in regional political organisation and economic factors; between even Government railways there was no uniformity, and transfer, more particularly in 1940-44, to State ownership of the remaining company-owned lines only perpetuated a diversity of pay scales which were based, in the case of individuals, on the past ownership of the railway employing them. The Indian Ministry of Railways shows in an illustrated booklet* what has been done since Partition to improve and co-ordinate conditions for the employees of Government-owned systems in that Dominion. Details are given of the Central Pay Commission scales adopted in 1947, which gave uniformity, and much-needed relief in the soaring cost of living. The various allowances and the re-constituted provident fund, together with methods of recruitment and training, trade unions, and consultative machinery, are also briefly described, as well as the many welfare activities. These measures affect nearly 1,000,000 railwaymen, and one in every 100 families of the second largest population in the world.

Central Line Jubilee

ALTHOUGH the third electric tube railway to be opened in London—the City & South London preceded it in 1890, and the Waterloo & City in 1898—the Central London Railway, which was opened for public traffic on July 30, 1900, may rank as the real forerunner of the present London Transport tube railway network. It became popular at once, and was nicknamed the "Twopenny Tube" from the flat fare of 2d. for the 5½ miles from the Bank to Shepherd's Bush, which lasted for seven years. For the first time, the City, the West End, and the growing residential districts of West London were directly linked by rapid transit, and the swift, clean tube trains dealt a further blow to the already falling fortunes of the roundabout, steam-worked, Inner Circle. Camel-back electric locomotives were at first used, but vibration troubles caused their replacement in 1904 by multiple-unit trains. The Central London became part of the Underground group in 1913, and as such passed to the L.P.T.B. in 1933. In 1937 it was renamed simply the Central Line, and the complete modernisation of the original line was speeded up to fit it for the important extensions eastwards and westwards authorised by the 1935-40 New Works Programme, but delayed by the war. The line now covers 45 route-miles from West Ruislip to Epping, with the branch to Ealing Broadway and the loop from Leytonstone via Hainault to Woodford.

Southern Region Punctuality

DURING the four weeks ended March 25 passenger steam train punctuality in the Southern Region of British Railways reached the highest level for that month since the war. The average late arrival of steam trains was 0.74 min., a 10.8 per cent. improvement over last year, when the average late arrival was 0.83 min., and 27.4 per cent. better than for the equivalent period of 1948. Com-

* Railway Workers in India. Ministry of Railways (Railway Board), New Delhi. Price 12 annas.

menting on the result in the Southern Region edition of *British Railways Magazine*, Mr. S. W. Smart, Superintendent of Operation, says that timekeeping would have been even better but for the incidence of fog on eight days. For all passenger trains, the best day's average was 0.43 min., and the worst was 5.74 min. on March 7, when fog was particularly dense in the London area. Electric train punctuality was slightly below the 1949 standard, though still above the level of other post-war years. Results for the latest period, compared with those for previous periods, are shown below:—

AVERAGE MINUTES LATE ARRIVAL (WEEKDAYS)						
		Four weeks ended				
		1945	1946	1947	1948	1949
		Dec. 29	Mar. 23	Mar. 22	Mar. 20	Mar. 26
Steam ...	...	8.06	2.99	3.91	1.02	0.83
Electric ...	...	4.97	2.30	5.32	1.42	0.92
Freight ...	...	25.6	17.8	10.9	4.6	2.8
						3.3

Overseas Railway Traffic

DURING the fortnight ended July 9 Antofagasta (Chili) & Bolivia traffic again failed to maintain the 1949 level, and on the aggregate are now lower by £189,400 at £1,597,554. Receipts for the two weeks under review were £63,590 and £55,400, as compared with £76,760 and £66,370 last year. Paraguay Central traffic for the week ended June 30 amounted to G229,777 and brought the aggregate gross receipts for the year up to G8,116,426, a G2,703,170 improvement over results in 1948-49. In the first week of the financial year 1950-51 Paraguay Central receipts were higher by G66,850, at G210,310, though, due to the inclusion of an extra day in receipts for the equivalent period of 1949-50, aggregate receipts were only G37,124 higher. At the close of the financial year 1949-50 Taltal traffic for the 52 weeks were £173,510, as compared with £111,610 for 1948-49; during the month of June there had been an advance by £7,235 to £19,090. La Guaira & Caracas receipts during June were down by \$36,630 at \$58,956, and in the first 26 weeks of the current financial year have fallen by \$148,198 to \$503,317.

Touring by Rail in Sweden

LAST week we referred briefly in our Overseas pages to a special tourist train recently placed in service by the Swedish State Railways which should help considerably in popularising the unusual scenic attractions of the Arctic Circle and the many beauty spots and places of interest for which Sweden is famous. Starting at Stockholm the train passes through Upsala and Dalecarlia to the iron-ore and waterfall country in the far north and then across the Arctic Circle to Narvik in Norway. Trips by road and water have been arranged at various places and afterwards the travellers return to the train to sleep. Some 50 passengers live in the train for eight days. The train, which has been introduced largely with the intention of attracting dollar traffic, contains several unusual amenities, including a darkroom supervised by a photographic expert, where tourists can develop their own films, together with a writing room and a library. Travel films are shown in the saloon and there is a bar attached. There are four sleeping cars, first and second class, with single and double-berth compartments and shower baths. The train is illustrated in other pages this week.

Ticketless Travel in India

THE passenger traffic of the Indian railways doubled between 1938 and 1945-46. Because of overcrowding during the war, due to the diversion of coaches to military traffic, pilferage of electric light fittings became rife, hampering the work of the ticket examiners. The habit of free riding which thus developed persisted through the upheaval of partition, when normal services on many lines were suspended, and it was difficult to distinguish refugees from others. In 1948-49 nearly 60,000,000 passengers without tickets or with wrong tickets were detected, and Rs. 1,44,49,294 (approximately £1,083,697) were obtained from them. To meet this grave situation the railways have improved booking facilities, drafted

extra staff to man the gates at stations, and instituted surprise "raids," in which a train is stopped out of course between stations and a squad of ticket examiners and police, accompanied by a magistrate, boards it and carries out a summary check. In January, 1948, the Uttar Pradesh Government appointed a stipendiary railway magistrate in each civil district, with a posse of police, who was to hold his court at any station in the district and try offenders brought in. Similar measures have been introduced by other Provincial governments. There were 120 railway magistrates on Indian Railways in 1948-49 and more than 113,000 convictions for ticketless travel were made.

Weight of Rolling Stock

OPINION differs as to whether the traditional methods of railway coach design and construction are correct policy. This policy has, indeed, been the subject of adverse criticism from time to time, mainly on the score of weight. With the present tendency to incorporate more passenger amenities into coach design the question of weight takes on increasing importance. More recently, designers of coaching stock have been devoting more attention to the possible application of lightweight alloys of considerable strength, with a view to saving weight, and it is worth while analysing the weight of existing coaching stock, breaking these down into groups such as bogies, underframes, body structure, and so on. Such an analysis will often reveal considerable scope for weight reduction in those parts of the structure which are lightly stressed or play only a small part in load carrying. Reduction in weight permits better acceleration for the same power, a factor of considerable importance where suburban short-distance, frequent stopping, services are concerned. Further information on this subject is given in an article elsewhere in this issue.

Leaving the Gates Unlocked

THE fatal accident which occurred on January 3, 1950, at Second Drove Crossing, between Ely and March, was inquired into by Lt.-Colonel D. McMullen, and his report, summarised in this issue, has disclosed a disagreeable state of affairs. The gatekeeper, with the knowledge of her husband, the local ganger, had adopted the practice of leaving the gates unfastened at night, contrary to an instruction of which both must have been fully aware. People had thus become accustomed to letting themselves across. A lorry driver did so on the occasion in question and narrowly escaped an accident. He was being followed by a car—and there is little doubt that he knew it—the two occupants of which presumably assumed he was being correctly passed over by the gatekeeper. A train running at about 50 m.p.h. smashed the car completely, and the driver and his wife were killed instantly. The inquiry brought out facts not at all creditable to those responsible for supervising the crossing, and Lt.-Colonel McMullen has been compelled to criticise them strongly.

Diesel Locomotive Crews

FEW strikes in the United States have met with such unanimous condemnation as the recent strike of enginemen in an attempt to compel the provision of a second fireman on every multiple-unit diesel locomotive. Actually, the settlement leaves things almost where they were, merely re-emphasising what was already an agreed principle, namely, that the fireman must be with the driver at the head end for signal observation during the whole time a locomotive is in motion on a passenger express train. It also lays down that, while maintainers, supervisors, or others with specific duties to perform may travel on the locomotive, they shall not perform any of the fireman's normal duties, and that if for any reason an additional man should be needed to carry out any of the fireman's work in the engine-rooms, he shall be himself a fireman, which is a reasonable provision. Recently, in the hope of effecting economies sufficient to justify the continuance of passenger traffic on sparsely-trafficked U.S.A. main and branch lines, a new type of diesel-

hydraulic railcar has been introduced, which can cover nearly 3 miles for every gallon of diesel fuel at a cost of a little over 3 cents a mile. It is designed for operation by a driver and conductor only, but already two unions are claiming the addition of a fireman and a flagman.

London Fares Scheme to be Amended

ON February 23, 1950, the British Transport Commission submitted to the Transport Tribunal a draft scheme for determining the charges for the conveyance of passengers in the London area, and asked for authority to bring the scheme into operation on October 1 next. The scheme has been considered and has been passed back to the B.T.C. for amendments to be made. Thus it is most unlikely that the scheme will take effect in revised form on the original date. Certain principles have been established and in reaching its conclusions the Tribunal has borne in mind that the scheme may require modifications when schemes are considered for the country as a whole. These are not likely to be ready for some time. Looking to the future the Tribunal assumes a gradual improvement in the B.T.C. financial position and that economies will progressively be effected.

It is clear the Transport Tribunal is determined to give the schemes brought before it the detailed consideration which their importance in the public interest requires. Any suggestions that proposals put forward by the B.T.C. might be "rubber stamped" by the Tribunal should by now have been completely dissipated. The Tribunal has taken a judicial view of its responsibilities which should do much to inspire the confidence of the public and trading interests in the charges sections of the Transport Act, 1947.

Though the actual contribution London ought to make towards the total financial requirements cannot be determined accurately the Tribunal is of the opinion that a present assessment possibly too low is preferable to one possibly too high. The conclusions reached are, first, that when estimating the revenue requirements from passenger operations in the London area some provision should be made for a contribution to the central funds of the B.T.C., and, second, that the reasonable contribution of the London area to the total revenue can be estimated at £79 million. The B.T.C. estimate of the revenue that ought to be obtained from the London area in a future year was £82.4 million. This assumed no alterations in present price levels, and, so far as the central charges of the Commission were concerned, was based on an estimated consolidated revenue account for 1950, and an accumulated deficiency estimated at £40 million at December 31, 1950. This estimate was criticised by the Middlesex County Council which submitted that the fair contribution should be £75.1 million. The estimate of the yield laid before the Tribunal at the outset of the inquiry was £80.3 million and this estimate was primarily based on the traffic trends to the early part of this year. These trends showed a gradual fall in receipts in spite of a gradual increase in train and car miles, and it had been assumed that the fall in receipts would have ceased by the end of this year, and would then continue at about their present level. Additions were made in respect of certain receipts which it was estimated would arise in a future year. On the whole the Tribunal sees no ground for criticising the estimate of the gross yield of the scheme before it was discounted for the losses it was assumed would be sustained in consequence of increased charges. The Tribunal considers that the yield of the proposals should not be less, in a future normal year, than £80 million, which is approximately £1 million more than the contribution which the London area should now be called on to make. It does not accept the view that increased competition from private motorcars will reduce the yield by anything up to £1½ million.

At the inquiry there was a considerable volume of evidence that the need for reduced fares for workmen in London was as great today as it had been at any time owing to the increase in the cost of living and the distances they normally travel to work. The Tribunal is satisfied that the early morning fares proposed in place

of the present workmen's fares are at a level which would impose more hardship on travellers at such fares than the charges proposed for other travellers. Therefore, because the scheme might be expected to yield some £1 million more than was required, some reductions should be made in the proposed early morning fares. Those workers who now enjoy the facility of shift workers tickets should continue to be entitled to these at the same fares as the early morning fares and otherwise on the same conditions and under the same regulations as obtained at present. For this reason the B.T.C. has been asked to submit amendments reducing the cost of early morning travel by approximately £1 million reduced by the estimated loss of revenue from the retention of shift workers' facilities and any necessary consequential alterations of the scheme. The inquiry will be resumed on July 26.

De-Nationalisation of Railways

AN organisation known as "The Fighting Fund for Freedom" has issued a pamphlet giving its ideas on how British Railways could be de-nationalised and re-established as ten individual and competitive companies. Apparently this is not the only method which the organisation has in mind, for it has in preparation another pamphlet which is promised in due course, which will put forward another scheme for the same purpose. In the meantime, a plan is suggested under which an Act of Parliament would be introduced enabling ten companies to be set up and empowering the State to confer long leases—the suggested term is 75 years—of the various railway properties to the companies. The shares in the companies would be taken up in the first instance by the State, and the capital, it is suggested, would be approximately one-third ordinary and two-thirds preference shares, the latter redeemable in 65 years. The State at any time would be willing to sell to private interests shares of any denomination of the railway companies, and the transactions would take place through the normal Stock Exchange channels at the market prices of the day.

That in essence is the proposal in the pamphlet, but there are some other points, which, although given in the form of elaboration, are really fundamental. It is stated, for example, that after the companies had been formed, the Government interest in the railways would have to be maintained "until working figures for a year or two become available and good enough to justify offering subscription terms to the investing public." The period of time mentioned is perhaps sufficient indication of the knowledge which had gone to the preparation of the scheme, unless, of course, the proposal is a project for well into the future. On the other hand, it may well be that the sponsors of the plan base their hopes of securing a rate of profit which would appeal to the public on another paragraph, which suggests that "railway capital should be drastically written down prior to the transaction, as this would enable a reasonable amount of dividend to be earned and paid, and would engender a much more ready demand for both types of share." We wonder how this will appeal to former railway stockholders who have already received a substantial cut in their capital and income as a result of the operation of the Transport Act, 1947. No indication is given as to the basis on which the writing down of capital should be done, except that it is stated that "the de-nationalisation problem boils down to a very simple thing, namely, disposing of the assets for what they will fetch." Usually this is a procedure adopted only in the case of a bankrupt concern which is going out of business.

The holders of Government securities may take such heart as they may from the admission made by the Fighting Fund for Freedom that "it is a moot point as to whether holders of any particular type of Government securities, railway bonds or otherwise, should be forced under the Act to exchange these securities for shares in the new companies." On the whole, sponsors of the plan think it might be better that the whole transaction should be voluntary—with which suggestion there will probably be greater agreement than on any other in the pamphlet.

Lord Bruce and a Railway Subsidy

LORD BRUCE OF MELBOURNE has had a distinguished career as an Empire statesman and he brings to the deliberations of the House of Lords, to which he was elevated in 1947, a background of wide experience and a broad understanding of many of the most urgent problems of the day. He has been Chairman of the Finance Corporation for Industry for the last three years and, presumably, in that connection has added to his knowledge of Empire, and particularly Australian, affairs, some acquaintance with the needs and problems of industry in this country.

In a recent debate in the House of Lords on the nationalised industries, he spoke at some length and discussed the policy behind these industries. In particular he dealt with coal and transport. In relation to the latter he put forward an argument which we believe to be specious. He said: "If we wanted to keep railway transport alive there was an outstanding case for the Government to come in with a subsidy." A few days later, he developed this theory further and suggested that road and railway transport should be handled as two separate parts of a great transport system. They should be separated financially, to ensure that the benefits of rapidly developing road transport, either as to facilities or costs, would not be denied to industry in order to protect the declining revenues of the railways. Action on those lines, he believed, would result in losses on the railways. In such event, bearing in mind the importance of cheap and efficient transport to our whole economy, he considered that there was a case where a Government subsidy would be justified.

There have been suggestions on several occasions recently for a subsidy for railways, but it is strange to find the proposal being made by the Chairman of the Finance Corporation for Industry, who must be only too well aware of some of the consequences which flow from this use of public money. At the present time, a good case can be made out for a reduction and not an expansion of Government expenditure, apart from the more specific objections to a railway subsidy.

To separate road and rail transport would be directly contrary to the requirements of and, indeed, the major justification for, the Transport Act of 1947. It would throw back into the melting pot the whole objective of co-ordination of road and rail, which has been recognised for years as the only reasonable solution of the national transport problem, and would render completely impracticable, even as an idea, the achievement of the properly integrated system of transport which the Act requires.

Lord Bruce gives no indication as to why, in his view, railway revenues necessarily should decline; undoubtedly they would if the roads were given the kind of preferential treatment that they have enjoyed so long, the freedom to cut rates, pick and choose traffic, and generally have the advantages of uncontrolled operation which in the years immediately preceding the war had brought anarchy into the internal transport system of this country. If railways were hamstrung by control and restriction which did not apply to their principal competitors, it might well be expected that they would lose revenue. Would an arrangement of this kind be a service to industry in general? Lord Bruce speaks of the "benefits of rapidly developing road transport either as to facilities or costs," but this is a superficial treatment of the subject, if he gives no indication as to the background of the system by which the facilities are provided, or how the costs are made up.

The advocacy of a subsidy to railways is based quite simply on a desire to obtain a service below cost. There is no real intention on the part of any of those who advocate a subsidy to assist transport; the benefit they seek is much nearer home. If it is argued that, for some national or social policy, certain users of transport should be given assistance from the State, why should not the subsidy be paid to the organisations, trades or individuals who are supposed to need it? They could then pay an economic rate for transport, and there would be a good deal less confusion as to which party was the recipient of public assistance

—the user or the provider of transport. So long as the cost of transport shows a smaller comparative rise than the general price-index, there can be no question of extortion by transport management.

There are other dangers in a subsidised transport system. There can be little doubt, as Lord Hurcomb has pointed out, that a railway service receiving aid from the State would be more vulnerable to demands which, on their merits, ought to be resisted. It would be deprived of the stimulus to efficiency on the part of all sections of the staff, from the top management downwards, which consciousness of the necessity for paying their way imposes. There is another point which is often overlooked but which might have the gravest repercussions on the transport system of this country. If Parliament were to give a subsidy to the railways, there is no doubt that it would be conscious that it was weakening sound financial principles and there would, therefore, be a temptation to attach to the grant all sorts of interferences by the subsidising authority. It is in the highest degree unlikely, and extremely undesirable, that a large sum of public money should be handed over to the British Transport Commission without any conditions attaching to it.

In the meantime, there is also the very pertinent point that Parliament itself has decided against the grant of a subsidy by requiring the British Transport Commission to pay its way "taking one year with another." The British Transport Commission has been in being for two-and-a-half years. It will be more than fortunate if it achieves the task which Parliament has placed on it in ten years. It certainly would not be helped to reach its objective of providing "an efficient, adequate, economical, and properly integrated system" of transport in Great Britain, if it were to receive a subsidy in respect of one or all of its services.

Ministry of Transport Requirements

AS a result of the recommendations of a Select Committee, set up in 1839 to consider what legislative control should be exercised over railways in the interests of the safety of the travelling public, Parliament in 1840 conferred certain powers on the Board of Trade, under which inspecting officers were appointed with the duty of examining new railways and making reports on their construction and equipment. At the same time all accidents attended with personal injury were required to be reported to the Board. Two years later it was held necessary to pass another Act which enabled these officers to prevent a new line from being opened if they considered that it was not fit for public traffic. Strengthened by further powers conferred on the Board by a wider Act of 1871, which, among other things, put inquiries into accidents on a much sounder footing, this may be said to be the basic legislation under which the safety of British railway working has been dealt with ever since, from the traveller's point of view. Its main feature, in contrast to the position obtaining in some other countries, has been throughout an endeavour to secure effective results with the least possible interference in technical matters, and it can justifiably be said that in this endeavour it has proved successful.

At first the powers of the Board found practical effect only through the opinions expressed and decisions taken from time to time at the opening of a new line by its inspecting officers, or made known to the railways in official communications from its secretary. Very naturally, as all branches of railway engineering were in a state of rapid development and exhibited a considerable variety of devices, especially as regards signalling, telegraphy, and brakes, for attaining the same objects, there was for a time little effort made to reduce to set form the inspecting officer's opinions as to what was or was not necessary to make a railway "safe" for the public. In 1858, however, a beginning was made by preparing a list of minimum requirements which might be expected to be called for in all new construction. It is to be noted that at that date the Board had no power to control the working of a line that was already open, although the traffic conditions

thereon might have so much altered that the original equipment, then regarded as sufficient, was now considerably below the standard which the public safety demanded. This position, indeed, has never been completely remedied from the legal point of view, although it was materially affected by legislation passed in 1868 and 1889, but in practice it may be considered that it has, as of course no management could risk continuing to work lines in a way which ignored the pressure of informed opinion in the matter.

The legislation of 1871, however, did extend the Board's powers to include alterations to lines in such a way as to make a great improvement in the general position. In 1858 the Secretary of the Board wrote to 79 companies, saying that, as some doubt appeared to exist as to what would be required when inspections were being made, with the result that at times an opening had to be postponed, it was felt that it would be helpful if such requirements were set out in detail, and accordingly he forwarded a list of them. They were of very modest scope and included among other things "station" and distant signals in each direction at stations, the grouping together of levers working signals and points, and at junctions some arrangement whereby the signals would indicate definitely, without possibility of mistake, which way the road was set. The minimum 6-ft. way was called for and single lines restricted to being worked by one engine in steam.

Thus was begun the issue of those formal requirements and recommendations on which the Board and its successors have acted through their officers from that time until today, when, after a lapse of 25 years, a completely revised edition* has been made available. The list was re-issued, occasionally as a reprint, in 1859, 1860, 1862, 1867, 1872, 1874, 1877, 1881, 1883, 1885, 1892, 1896, 1903, 1905, 1911, 1914, 1925, and 1928, and the effects of experience and growth of improved methods of signalling and train operating, with developments in civil, mechanical, and electrical engineering, can be studied from their constantly widening scope and the changes of attitude towards certain aspects of the problem which they exhibit. We find that the notching of distant signal arms was first called for in 1877, and, although from 1874 signals were required to return to or remain at danger if the connections to them failed, it was not until 1892 that signal arms were required to be individually counterbalanced so as to comply with this principle should they become completely disconnected at the operating pin. In 1860, greater flexibility in the working of single lines was afforded by the recognition of the train porter or pilotman and train staff and ticket systems, the latter widely used until the electric tablet system pointed the way to something better in 1878, while many years before the Act of 1889 interlocking and block telegraph were made a requirement in all new work.

The present document consists of "requirements" for passenger lines and "recommendations" for goods lines and is carefully sub-divided and indexed. Of much more convenient size than the preceding edition, it begins by listing the documents to be sent to the Minister of Transport in connection with new or altered works, after which the main body of the text commences. As an example of the flexibility with which this legislation is applied it may be mentioned that at the outset reference is made to the discretion which the Minister is able and ready to exercise to meet special circumstances. Absolute block, signals, points, signal boxes, interlocking, sidings, junctions, stations, emergency and fire precautions, gradients, bridges, viaducts, permanent way, clearances, level crossings, single-line working, and continuous brakes form the main divisions of the text with certain references to light railway conditions.

Appendices deal with fire precautions on electric railways, details of construction, and so on, clearances, the way in which the requirements of the Act of 1889

should be interpreted with regard to brake power on the different classes of trains, and the relaxations under which light railways may be worked. The necessity of issuing a revised version of this important document was recognised a long time ago, but the war intervened to prevent the work being taken in hand. This was emphasised recently by the present Chief Inspecting Officer of Railways, Lt.-Colonel G. R. S. Wilson, when speaking at a meeting of the Institution of Railway Signal Engineers, members of which are closely concerned with the matter. As stated, the last previous main revision was carried out in 1925, although the issue of 1928 actually contained a few not very important alterations in the text, mainly the result of a change in tendency in signalling practice resulting from the development of light signals. The chief differences between the new document and its predecessor are to be found in the sections dealing with signalling, bridges and viaducts, permanent way, level crossings, and electric railways, and result directly from taking account of well-proved changes of practice and the altered needs of the present day.

Examination of the text shows that every item of improved practice which has been found to give good results in regular working has been carefully considered and discussed with the railways and that, for example, both under semaphore and light signalling a clear code of practice has been elaborated. Opportunity has been taken to re-arrange the various subjects so that they are now more conveniently classified for reference and read in a better order.

A reasonably complete standardisation of signal aspects has been achieved, and it is to be noted that all mention of the lower quadrant signal disappears, while the position-light shunt signal, but with one of its lights red or yellow as the case may be, is now regarded as the type to be adopted wherever practicable. The banner type repeating signal with black arm now receives official sanction. The limit of 350 yd. for manually worked points is retained. The double-yellow indication is given the name of "preliminary caution," while under block controls we find requirements which incorporate the best refinements that have been gradually introduced into ordinary block telegraph working and subject the use of emergency release apparatus to well-defined limitations.

Civil engineers will find important modifications in the section dealing with bridges and viaducts, again incorporating the best-known practice and specifications, and under permanent way we find flat-bottom track given the preference for heavy high-speed traffic. A minimum length of rail of 60 ft. replaces the 30-ft. figure previously laid down.

Interesting revisions have been made, also, in the requirements covering level crossings, and unworked distant signals are now to be restricted to those where the gates are normally closed across the railway and operated by the trainmen, although in such cases distant warning notices are considered preferable. In the section dealing with single-lines the requirements do not differ essentially from those already known, but opportunity has been taken to arrange the text in a clearer and more logical manner and to make rather more complete reference to the actual details of the working. In the case of electric token apparatus, hitherto merely referred to generally, reference is made to the use of insulated line wires, interlocking between instruments at non-crossing block posts, auxiliary instruments, occupation arrangements, starting signal releases, and related matters. The wording referring to non-token systems of working has also been expanded. Under the heading of electric railways are found the former requirements, slightly modified, covering precautions against risk of fire, and so on, while the protective measures required in connection with both live rail and overhead traction systems, the result of experience gained in the last twenty-five years, are set out in detail, together with those relating to the conductivity and other qualities of the return circuit and means of protection against electrolytic damage or inductive interference with neighbouring circuits or electric apparatus. A revised construction and clearance gauge diagram completes the document.

* "Requirements for Passenger Lines and Recommendations for Goods Lines in regard to Railway Construction and Operation." London: H.M. Stationery Office. Price 1s. 6d.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Third Class Sleeping Berths

July 7

SIR,—It is welcome news that the Compagnie Internationale des Wagons-Lits has introduced third class sleeping berths in the "Nord Express." I feel sure that these would prove very popular in the Calais-Rome through service, as the cost of the second class berth is now getting beyond most people's pockets. The journey is far too long for most people to undertake in a third class coach, unless they are young and robust.

Yours faithfully,

RONALD SHEPHARD

c/o Faostini, Via M. Dionigi 29, Rome

"On the Up Line"

July 15

SIR,—Under this heading "The Scrap Heap" in your issue of July 14 had a paragraph which suggested that the U.S.A. railways might have increased their revenue per ton-mile last year. The American mail delivered on July 13 proved your notion to be correct. The 1949 average was 1.340 cents per ton-mile and was higher than in any previous year, though it reflected for only four months the last advance in freight rates, authorised in August. The average was 37 per cent. above 1946, an increase less than the rise in prices of railway fuel and materials. The movement of freight rates and general prices in the States of recent years has not differed, save in degree, from the trend in Great Britain.

Yours faithfully,

R. BELL

Frogmal, N.W.3

Coach Design

June 12

SIR,—In their letters "Restoring Railway Efficiency" and "Limitation of Railway Speeds" in your issue of June 9, Mr. E. T. Clark and Mr. W. Jacobsohn complain of dirty seats, being bound to a seat, unable to stretch their legs without incommoding other passengers, and being deprived of free movement.

In many countries, second or third class coaches have seats of the garden seat variety with reversible backs, and can be kept much cleaner than British carriages, as they can be easily swept. Many workmen's trains consist of this type of coach, and two or more are attached to other trains. Cushions for other passengers can be hired from the guard. It is not much good to complain of our dirty seats when no proper provision is made for men travelling in dirty working clothes.

In the first class, seats are covered with leather, or similar material, which avoids the accumulation of dust and germs. They are thoroughly disinfected once a fortnight. Other advantages of this type of coach include:—

There is no struggling along with hand-luggage bumping against narrow side corridors. Passengers can lift their luggage on the backs of seats, steadying a hand on them and get along much faster on central aisle coaches. Longer trains can be run. Passengers can move about, and walk to and fro to coaches standing outside the platform, without needing to stop the train twice.

Attacks on passengers cannot occur without several people seeing them. If molested, passengers can move to another part of the coach or train. The guards are within easy call, as they are always walking through the train collecting tickets, chatting with passengers, advising them of the approach of interesting places, and so on, instead of being in a van isolated from their passengers. Communication cords are thus unnecessary. There is no need to stop the train for the guard to alight, walk along the track searching for the compartment where the cord

has been pulled. Lavatories are provided at one end of every coach, avoiding passengers having to alight and make their way to lavatories at intermediate stations.

Tickets are collected on the train, saving the time of the staff at every station. On heavy suburban trains, small squads of ticket-collectors board the trains for a couple of stations to relieve the guard of most of the work, and then change to a train in the opposite direction. In walking through the train, guards call out the next stop. There is no need for passengers to look for station nameboards.

Parcels and luggage are carried in vans at the front of the train, provided with thief-proof vacuum locks, or are accompanied by a parcels porter. Pilferage is almost impossible. The rear vehicle often consists of an observation car, for which an extra charge is made. Sliding-end and central doors prevent passengers falling out, and getting their fingers crushed in the slamming doors of compartment carriages. The serious damage, loss of electric light bulbs, and window straps in compartment coaches is prevented in saloon coaches.

Yours faithfully,

E. R. B. ROBERTS

Eynesbury, St. Neots

"Bradshaw's British Railways Guide"

July 12

SIR,—Having recently had occasion to study the admirable railway map included in this publication, I found, to my shocked surprise, that the growing industrial centre of Ellesmere Port, with a population of nearly 35,000, is not indicated, whereas comparatively small Wirral villages in the immediate vicinity of Ellesmere Port are clearly shown.

As a Cheshire County Councillor representing the area in question, it would interest me to know whether there is any other town of comparable size in the United Kingdom, to be excluded from the map of what is almost regarded as a national publication, and what standard for selecting names of places for their map is generally adopted by the publishers.

I might add that the inhabitants of Ellesmere Port regard the omission as a slur on their dignity as the largest oil distributing centre in Great Britain.

Yours faithfully,

GERALD LEEDAM

Gorst Hills Cottage, Little Sutton, Wirral

British Railways Finance

July 15

SIR,—Your frequently-voiced assertion that the railways should not be subsidised deserves the support of all who have efficiency at heart. If, however, their financial standing is to be restored and their employment made attractive to high-grade labour, some drastic economic reform is necessary. This is obvious when one considers the effects of the upward trend of prices generally, in which the railways have participated fairly compared with certain other industries, on the two chief forms of inland transport.

Rail has suffered in this respect out of all proportion to road. Fuel, labour, materials, development—the bills the Railway Executive has to meet—are tremendous, while road operators have had to contend with little more than the wage increases of their relatively small staffs and the cost of new vehicles. The result is that the respective passenger fares and carriage charges no longer even approximate; and there is every reason to believe that the difference will become greater, through no fault of the railways.

Time was when cheap excursions and exceptional goods rates bridged the gap and the railways at least subsisted. Now, even that expedient is failing, as Mr. J. H. Laundy pointed out in your July 14 issue, the reason being that the gap is, under present circumstances, "unbridgeable."

Consequently, some major item of railway expenditure must be eliminated, first to promote solvency through equalised competition, and later to enable wages to be raised to a standard comparable with those elsewhere.

Nationalisation presents the opportunity to give the railways a squarer deal than dreamed possible in 1937, simply by relieving them of the responsibility for maintaining the track. For too long commercial road transport has enjoyed the advantage of having its track already laid, paid for and kept up by the Treasury and local authority jointly, and motor vehicle owners, including the British Transport Commission, contribute to the funds or both. Thus, the railways help their rivals to defeat them and have done so ever since the battle between road and rail commenced. With such an involuntary fifth column in their favour, no wonder road rates are low!

It seems no more than elementary justice, therefore, that the Exchequer should bear the cost of railway track maintenance, at least in the proportion necessary to confer to rail the same benefit always enjoyed by road. Alternatively, though not preferably, taxation of motor vehicles

or the owners thereof should be raised so as to meet their full share of road maintenance, with a corresponding reduction in the rates and taxes levied on the public at large. It should not be overlooked that the initial capital cost of laying the railways was borne by the owners, with little or no State assistance, and that the property still carries a rateable value.

This might be merely another form of subsidy, but it is a defensible subsidy, with a purpose clear for all to see, explicable to all who question it. It seems to be the only practicable answer to the problem of enabling road and rail to compete once more on equal terms, as they did, broadly, before the war. Thus would we be a good deal nearer the efficient, economical, and properly-integrated public transport promised by the 1947 Act. Surely, the end justifies the means.

Yours faithfully,

PETER COLLINS,
Stationmaster

Barnham, Suffolk

Publications Received

The Scope Year Book of Industry, Trade and Finance, 1950.—An encyclopaedic reference book for business and the professions compiled by a panel of economists and statisticians. London: Scope Books Limited, 1, New Bond Street, W.1. 9 in. × 6 in. × 1½ in. 645 pp. Price 45s. net.—An imaginative effort to break fresh ground by the inclusion of many features which, it is claimed, have never before appeared in a book of this kind, has been made by the compilers of the first edition of this new work of reference. The first 118 pages of text, which are devoted to a review of the British economy in 1949, will be of wide general interest, and range from surveys of the main industries, the Stock Exchange, and the Cripps budget policy to the effects of devaluation on prices of raw materials and an outline of the International Wheat Agreement. The remainder of the book consists of three main sections, facts for reference and statistics.

Timothy Hackworth: "Father of the Locomotive." A Souvenir in Commemoration of the Centenary of his Death, July 7, 1850. Shildon, Co. Durham: The Shildon Timothy Hackworth Centenary Commemoration Committee. Illustrated. Paper covers. Price 1s.—The chief claim to fame of Timothy Hackworth is his design of the first steam locomotive to be a commercial success. His *Royal George*, built at the Soho Works, Shildon, in 1827, for the Stockton & Darlington Railway, worked over 22,000 tons of goods over 20 miles in its first clear year at a cost of £466, less than half the cost of corresponding work by horses; and this, as the souvenir points out, finally settled the commercial expediency of the steam railway locomotive. The other claim made on behalf of Hackworth, recently reiterated by his great-granddaughter, Mrs. W. Parsons, in a letter to *The Northern Echo*, is his invention of the blast pipe. This is disputed by W. W. Tomlinson, who in his "North Eastern Railway" quotes fairly conclusive evidence that George Stephenson

was acquainted with the steam blast in a locomotive of the Killingworth Colliery Railway some years before the *Royal George*. Apart from this, however, this souvenir booklet shows that Hackworth was a prolific inventor, as well as a fine character; he was, among other philanthropic activities, a pioneer in welfare work and technical education for railwaymen. The booklet also briefly describes Shildon Works, from their beginning, in 1825, to 1947, when their weekly output was 72 wagons.

Rapier Railway Plant.—Breakdown cranes, traversers, wheel load indicators, and turntables are among the types of railway plant illustrated in a folder issued by Ransomes & Rapier Limited, Ipswich. Also given are the capacities of locomotive hoists, hydraulic buffer stops, standard mobile and super mobile cranes, and lorry cranes.

Commercial and Motor Vehicle Accessories.—A sixth edition has been issued of the sales catalogue published by Trico-Falberth Limited, Great West Road, Brentford. The catalogue, which is illustrated and contains 76 pages, covers the wide range of Trico products, including windscreen wiper accessories and specifications for British and American commercial vehicles and motor cars. The information is clearly tabulated for the year, make, and model. Other accessories included are control switches, direction indicators, and driving mirrors.

Railway Manual: No. 4001.—Railway engineers interested in the application of roller bearings to steam, electric, and diesel locomotives and rolling stock, will find much useful information in this latest publication issued by British Timken Limited, Birmingham. This book, which is well illustrated and runs to 118 pages of detailed information on design, methods of mounting roller bearings, lubrication, and so on, contains chapters on axle design and research and surface rolling technique. There are also a number of half-tone illustrations depicting loco-

motives and rolling stock fitted with Timken roller bearings, together with 27 folding plates showing typical designs and alternative bearing selections and corresponding dimensional changes in axleboxes made to suit varying loading and operating conditions.

Railway Signalling Equipment.—A booklet of illustrations has been issued by B.P. & Tyer's Signals Limited, 16, Ashwin Street, Dalston, London, E.8, which shows examples of various types of signalling apparatus manufactured by this firm. The types illustrated include Microjust circuit controllers as fitted to a mechanical interlocking frame and the No. 11 pattern key token instrument which has been modernised to include Birmabright light alloy in its main castings and the complete interchangeability of parts. The booklet, which is a forerunner of a new looseleaf catalogue to be issued in the near future, also contains a list of agents in various parts of the world.

Standard Tool Steels Revised.—Recently the English Steel Corporation Limited, Sheffield, 9, has revised its "Summary of Standard Tool Steels" folder. The 15 steels listed in the revised edition have been selected as standard because they represent the most versatile and widely-used steels and will cover practically all applications. Included also is the method of heat-treatment of high-speed and hot-work steels, alloy steels for cold work and plain carbon steels, the approximate analysis, and their typical application.

Painting with a Policy.—Under this title the firm of Associated Lead Manufacturers Limited, Crescent House, Newcastle-on-Tyne, 1, has published an informative booklet on the preservation by suitable painting of steel, wood, and other surfaces, both outdoor and indoor. The inherent economy of using good-quality paints is emphasised, and useful five-, eight-, and ten-year painting maintenance programmes for buildings in cities, suburbs, or the country, are included. Copies of the booklet are available from the Association.

THE SCRAP HEAP

For H.Q. Only?

A correspondent writes from West Hartlepool asking whether it is a sign of the times that a station requisition form asking for red tape was returned endorsed "Not for station use."

Absent-Minded

Mr. J. R. Macdonald, Hull Stipendiary Magistrate, left his spectacles in a train, but within two minutes of his reaching the court a railway official returned them to him.

"No more sneers about railway efficiency," he said, and then he fined a shoplifter £3. She pleaded absent-mindedness.—From the "Daily Mail."

Railway Construction and Operation

Recently, as was reported in our issue of June 30, the Ministry of Transport has published in booklet form a revised edition of its requirements in regard to passenger lines, and various recommendations for goods lines, regarding railway construction and operation. This booklet, revised a number of times and increasing in size and import-

ance with each revision, forms the subject of an editorial article in this issue, and is yet another reminder of the diverse problems now involved in railway work.

The first edition of these recommendations appeared as long ago as 1858 and consisted of a three-page pamphlet containing 14 items. Reproduced below are the first two pages of the original pamphlet of 1858 which included a letter from the Railway Department of the Board of Trade sent to the secretaries of 79 railway companies in Great Britain.

Obstruction on Line

Just outside the Chesterfield cricket ground, where Derbyshire were playing the West Indies, a railway line crosses the Walton road. Spectators were amused when a board was taken round the field to recall some absent-minded enthusiast to his duties. It read: "Will the person who left a lorry outside please move it? It is holding a train up."—*Northerner II* in "The Yorkshire Post."

Goodbye Steam

Pacific and Mogul, Atlantic, Prairie, and the rest,
Your time limited. You'll be replaced
By more efficient mechanisms—
Euphemism unblessed
To hide names like BoBo. Romance
Debased
To function. More efficient? Perhaps.
Not for me to say
But less didactic certainly. Even a
rusty GE
Tank on Brentwood bank could, fussing
away,
Teach us that you have to work even
to see
The summit. Now it all looks so
simple;
Until the shorts develop, or water's in
the oil,
And then—To preach a lost cause on
principle
Is wasteful. Steam ousted sail, and
tractors till the soil.
So turn on the slick clowns. Quench
the last ember.
But in a world; diesel-electrified,
some will remember. W. D. G.

*Railway Department. ①
Board of Trade
Whitehall, 29th April 1858
S.W.*

Sir,

Several cases have recently occurred, in which the opening of new lines of Railway has been postponed, because certain of the requirements of the Inspecting Officers had not been completed.

In order to prevent as far as possible the disappointment which such postponement must occasion to the Companies, the Lords of the Committee of Privy Council for Trade have considered it desirable to forward the accompanying statement, which sets forth some of these requirements, a deficiency in which has generally caused the opening of new lines of Railway to be postponed.

I am

Sir,

Your obedient Servant

Charles Garton

The Secretaries to the

79

Railway Companies

Memorandum of some of the requirements of the Inspecting Officers

At the Stations

Platforms to be not less than 6 feet wide & when raised the descent at the ends should be by means of ramps & not by steps.

Blocks to be provided in a position where they are visible from the line.

Signals and distant signals in each direction to be erected.

The lever handles of switches and signals to be placed in the most convenient position and to be brought as close together as possible so as to be under the hand of the person working them. The switches to be provided with double connecting rods.

In the case of Facing Points, except on single lines or at double junctions, in the case of Facing Points at junctions it is most desirable that the signals should be connected with the points so as to be worked in conjunction with them and to indicate whether they are open or shut.

Buildings of falling towards the line or on a level, to be provided with locked back blocks or locked points leading onto a blind siding.

Turntables for engines to be erected at terminal stations.

As regards the line generally

Standing work above the level of the carriage steps to be nearer to the rail than 3 feet benches where the carriages are not above 4 feet 6 inches in width, outside measurement.

The interval between adjacent lines of rails and between lines of rails and sidings must not be less than 6 feet.

When

A reproduction of two of the three pages of the first pamphlet issued in 1858 by the Board of Trade containing some of the requirements of Inspecting Officers in regard to railway construction and operation (see paragraph above and editorial article on page 60)

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Bilingualism in the Railway Service

The committee appointed to inquire into the question of bilingualism in the railway service has submitted its report. Decisions have been taken on its recommendations. The existing procedure whereby certificates of lingual proficiency are issued has been abolished.

It will be necessary in future to produce recognised certificates as proof of qualification in both languages, or to undergo the panel test to establish lingual proficiency. Certificates issued by the panel will be accepted for all non-clerical positions and also for clerks who joined the Service before September 30, 1912, and occupied a clerical post before September 1, 1925.

For appointment to certain lower-graded posts, servants will be required to pass only an oral test in one of the official languages, unless their duties bring them into contact with the public, or they have to supervise other members of the staff, in which event they will be subjected to an oral test.

Road Motor Services

In the period April, 1949, to February, 1950, the railway road motor services earned £2,381,261, and expenditure amounted to £2,518,166, leaving a deficit of £136,905. The deficit for the corresponding period of the previous financial year was £256,765, and the reduced losses are due to operating economies and the introduction of heavier and more economic vehicles.

New Rolling Stock

Thirteen coaches, of which seven were the new second-class type, and 649 goods wagons, all bogies, were placed in service by the South African Railways during April. No new locomotives came into service, but four were scrapped, as well as nine bogie and 17 four-wheel wagons.

VICTORIA

Diesel Developments

After completing successful test runs under full load conditions the first of the twelve new 280-h.p. 94-passenger Walker diesel railcars went into service on the Melbourne-Daylesford line on June 6.

On some journeys over level track and up gradients as steep as 1 in 50, the performance compared favourably with that of the "Spirit of Progress." On the journey from Melbourne to Geelong (45 miles) the diesel maintained 60 m.p.h. for most of the journey and its time compared favourably with that of the steam "Geelong Flyer," whose running time is 55 min. The first test was from Newport Workshops to Ingliston, 13 miles beyond Bacchus Marsh. The section from Bacchus Marsh has the most difficult main-line gradients in the State—1 in 48 for nine of the 13 miles.

The diesel ran at a sustained speed of 23 m.p.h. on the gradients, which the "Overland Express" (Melbourne-Adelaide) covers at 19 m.p.h.

The power units of the railcars are being imported from the United Kingdom, but all the bodywork is being built locally. The railcars are part of the £80,000,000 rehabilitation programme "Operation Phoenix," and will cost more than £500,000. They consist of a central power unit and two passenger units articulated.

The colour scheme is royal blue below the window sills, and silver for the rest of the car, including the roof, broken above the windows by a blue band running the entire length of the car. The gold-winged symbol of Victorian Railways is displayed on both ends, with silver flashes radiating from below them.

CEYLON

Improved Train Service

An augmented and accelerated passenger service was introduced by the Ceylon Government Railway in June on the line running south along the coast from Colombo to Matara (100 miles), with some fast trains which much reduce the journey time. Additions and alterations were also effected in the main-line service.

Rock Fall on Kadugannawa Incline

A boulder fell recently on a mixed train in the Kadugannawa Pass, on the line to Kandy. The rock wedged itself between the train and the face of the rock cutting. This damaged the sides of

some coaches and a wagon, with minor injuries to three railwaymen travelling in the train. One wagon and a third class coach were derailed; damage to the track was slight. Re-railing, and clearing the track took nine hr. This section is subject to heavy rain; due to efficient patrolling, though interruption to traffic is inevitable, accidents to trains have been rare.

UNITED STATES

Remodelling Sleeping Cars

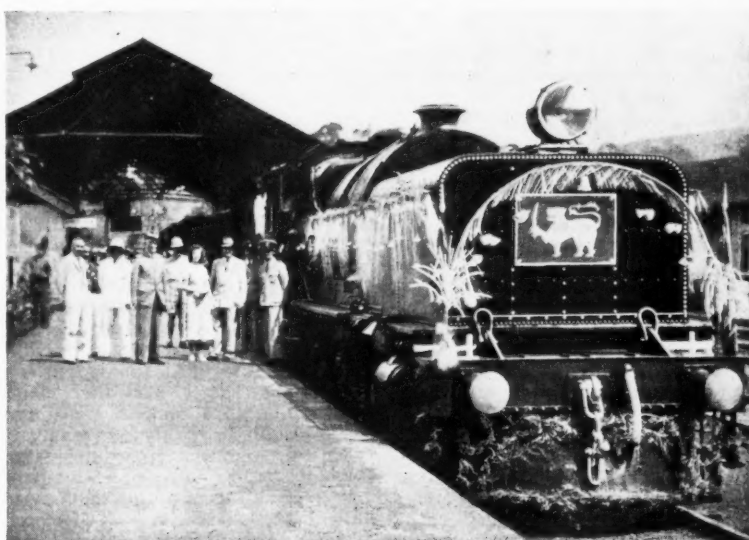
Although the various railways in U.S.A. own enough sleeping cars for all normal services, they rely on a car pool owned by the Pullman company to meet seasonal, special, and emergency services. To bring cars in this pool up to date the company is rebuilding many of its heavy-weight sleepers, in preference to building new lightweight vehicles at much greater cost. Remodelling of the cars substitutes roomettes and single and double bedrooms for the older types of accommodation.

SYRIA-LEBANON

C. de F. de Damas-Hamah

The persistent working deficits incurred by the French-owned Chemin de fer de Damas-Hamah et Prolongements in recent years have for some time engaged the attention of the governments of Syria and the Lebanon. Towards the end of 1949, the Lebanese Government, in whose territory most of the system is located, appointed a special commission with the task of examining the possibility of improving the situa-

Beyer-Garratt Operation in Ceylon



One of the eight 2-6-2 + 2-6-2 Beyer-Garratt locomotives operating on the Rambukkana-Badulla section of the Ceylon Government Railway, decorated in honour of Lord Soulbury, the Governor-General

tion. The complete reorganisation of the company, or the repurchase of the system by the Lebanese Government, were stated to be within the terms of reference of the commission.

A recent report from Damascus refers to a statement by the Syrian Minister of Public Works, according to which the railway company had submitted a proposal to the Syrian Government for the surrender of the railway concession for £8,000,000. The Minister stressed that the Government was not willing to consider the proposal, particularly as there was no appropriation in the current budget of the State for the purchase of the railway. The system comprises 270 route-miles of standard-gauge railway and 93 route-miles of 3-ft. 5½-in. gauge lines, the latter including a rack section, 20 miles long, forming part of the Beyrouth-Rayak line through the Lebanon Mountains. The share capital of the company was doubled from fr. 60,000,000 to fr. 120,000,000 by the end of 1949.

ITALY

Inclusive Rail Excursions

Special excursion trains, known as *treni turistici*, are being introduced by the State Railways. Passengers by these trains are granted a fare reduction of 60 per cent., covering inclusive sight-seeing tours at destination. Modern rolling stock is used, and speeds are those of standard express trains.

Increased Power Consumption

The consumption of electric power for traction on the State Railways rose to 1,100,000,000 kWh. during the year ended June 30, 1949, a post-war record, and exceeding that of 928,000,000 kWh. in 1938, but still below the peak of 1,574,000,000 kWh. reached in 1942 as a result of the intensified war traffic.

To cope with the expanding requirements various schemes for new power stations have been evolved. The two railway-owned underground hydro-power stations near Bressanone, on the Brennero line, a few miles south of the Austrian frontier, using the waters of the Rio Valles and Rio Fundres, are to be enlarged, and two new power stations, on the middle and lower course of the Tanaro, in the north-west to the south of Turin, are to be built. They are to combine 21,000 kW. installed capacity. Two thermo-electric power stations are to be built in Sicily in connection with the electrification of the Messina-Palermo main line now partly in hand.

There is also a scheme for the erection of two further geothermic power stations in the Larderello region of Western Tuscany, using the local natural steam of volcanic origin as their prime mover. This phenomenon and the five existing geothermic power stations (four rebuilt after the war and one of recent construction) were described in an article on geothermic electric power in Italy in our issue of January 20, 1950. The five power stations have a combined installed capacity of 290,000

kWh., but the two projected stations are to be on a much larger scale as they alone will total 250,000 kW. installed capacity.

SWITZERLAND

Development of the Electrogyro

It is proposed to replace the electric tramway between Altdorf and Flüelen at the southern tip of the Lake of Lucerne by an experimental Gyrobus route. The Gyrobus embodies the application to the road passenger vehicle of the Electrogyro principle, evolved by the Oerlikon Company of Switzerland, which was the subject of an article in *The Railway Gazette*, October 8, 1948, issue.

Electrification of Local Line

The metre-gauge line between Le Locle and Les Brenets, in Canton Neuchâtel, was recently electrified. The line is nearly three miles long and drops from an altitude of 3,000 ft. at Le Locle to 2,800 ft. at Les Brenets, on the eastern bank of the Doubs river which latter forms the frontier with France. The line was opened in 1890, and has always been difficult to work, due to the gradient of up to 1 in 33. With electric traction, journey time has been reduced to 8 min., with 20 trains each way daily.

FRANCE

Financial Aid to S.N.C.F.

The financial situation of the National Railways was discussed by the National Assembly in a recent budget debate. After the discussion the special grant of francs 50,000 million (about £50,000,000) in aid of the railways was voted as well as an indemnity of fr. 8,321 million (more than £8,000,000) in compensation for certain obligatory reductions of fares.

M. Christian Pineau, former Minister of Transport, recalled that the S.N.C.F. had drafted a plan for allotting maximum credits to some of the main lines, particularly the electrified system, and operating other lines by light trains and railcars. This would result in a relatively large reduction in the number of railwaymen, about 60,000 in five years. This plan, he added, had given rise to ridiculous talk of dismemberment of the S.N.C.F.

M. Chastellain, Minister of Transport, stated that, although he had to speak with reserve, his own conclusions were not much different from those of his predecessors. His reserve was due to the fact that various proposals, including the Toutée plan for dealing with the S.N.C.F. deficit, were now being examined by the Government. When a decision was reached the matter would be placed before the Supreme Transport Council. In any event Parliament would be consulted, especially about lines likely to be closed.

Railwaymen are continuing to agitate for wage increases, but it appears unlikely that strike action will be taken at present, as being unpopular during

the summer holiday season. The non-Communist committee has again been received by M. Chastellain with a view to resuming negotiations with the government and the S.N.C.F. authorities. A recent decree published in the *Journal Officiel* indicates that the power of fixing the wages of railwaymen rests with the management of the S.N.C.F. in agreement with the Ministers of Transport and Finance.

Receipts and Loadings

Railway receipts and wagon loadings have shown further declines this year. In the 21st week ended May 26, S.N.C.F. receipts totalled fr. 4,891,100,000, against fr. 4,507,772,000 in the corresponding week of 1949. For the first 21 weeks of 1950, total receipts were fr. 93,629,543,000, against fr. 103,388,590,000 in the corresponding period of 1949. Wagons loaded in the week ended June 2 for commercial traffic totalled 193,640, against 240,137 for the corresponding week of 1949. Total of wagons loaded plus wagons entering loaded from abroad was 228,445, against 285,291. Total number of wagons on May 26 was 387,000, of which 272,000 were available for use. Locomotives available were steam 7,897, electric 737.

WESTERN GERMANY

Main-Line Electrification Project

Preliminary work on electrification of the double-track Mannheim to Basle main-line, 166 route-miles, was recently put in hand. The headquarters of the scheme are at Lörrach, four miles from Basle and a mile from the Swiss frontier.

Further Electrification in Bavaria

Since the introduction of electric traction on the Nuremberg-Regensburg main line on May 15, reported in *The Railway Gazette* for June 2, preliminary work has been begun on electrification of other main lines in Bavaria. The double-track main line between Nuremberg, Würzburg, and Aschaffenburg, 119 route-miles, is to be electrified, and subsequently its extension from Aschaffenburg to Frankfurt, 29 route-miles. The connecting main line from Würzburg via Heilbronn to Ludwigsburg, 103 route-miles, is also to be converted. North of Munich, electrification is to be extended from Dachau via Ingolstadt to Treuchtlingen, on the electrified Augsburg-Nuremberg main line, 38 miles. South of Nuremberg the Munich-Dachau section, with a heavy suburban traffic, has been electrified for some time.

Excessive Fare Concessions

According to a recent official statement, 70 per cent. of all passengers travelling on the German Federal Railways benefit from fare concessions of one kind or another. It was also stated that the large number of facilities and reductions now in force cannot be maintained at the present level.

Coaching Stock Weight and Locomotive Power

Weight reduction in terms of the locomotive power at the drawbar

By a Correspondent

FROM time to time, what may be described as the traditional methods of railway coach design and construction are the subject of adverse criticism, mainly on the score of weight. Comparisons are made with the methods and materials used in road vehicle and even with aircraft manufacture. While at first sight there would appear to be justification in such comparisons, an appreciation of the relative "life" built into the respective structures tends to qualify the criticism of the railway vehicle. Furthermore, what may be considered a lightweight vehicle in one country may be classed as a normal vehicle in another. For example, a notable case of weight reduction in the U.S.A. was from 74 to 47 tons or a reduction of 36.5 per cent., which is almost the same percentage as in a recently quoted European reduction of from 45 to 28 tons.

Opinions may differ as to whether the traditional railway policy of building a long "life" into the structure was sound economics, and also whether the more modern concept of coach design will in the long run prove more economical in maintenance, but with the present tendency to incorporate greater passenger amenity into coach design the question of weight takes on greater importance.

For this reason, therefore, it is of interest to consider the question of weight reduction in terms of the locomotive power at the drawbar, and a study has been made of the tractive effort and drawbar horsepower requirements of three coaches assumed as having the same external form and proportions but weighing respectively 50, 40, and 30 tons.

To widen the range of the investigation two sets of resistance formulae have been chosen which, while both following the form of $R = A + BV + CV^2$ as proposed by Professor Carus Wilson, have, nevertheless, different characteristics. The formulae selected are the Davis as used in the U.S.A., and those given in Dynamometer Car Report No. 11 of the Great Indian Peninsula Railway; the latter will be referred to as the I.S.R. formulae.

In their basic form the formulae are as follow:—

$$(a) \text{ Davis : } R (\text{lb. per short ton}) = \left[\left(1.3 + \frac{29}{w} \right) + (0.03V) \right] + \left(\frac{0.00034AV^2}{wN} \right)$$

$$(b) \text{ I.S.R. : } R (\text{lb. per long ton}) = 3.20 + \left(\frac{4,000 - 41W}{2,500W} \right)V + \left(\frac{1,000 - 7W}{2,000W} \right)V^2$$

For the coach weights under con-

sideration the following equations are also given in the G.I.P. report:—

$$30\text{-ton coach } R = 3.20 + 0.0375V + 0.00205V^2$$

$$40 \text{ " " } R = 3.20 + 0.0239V + 0.00161V^2$$

$$50 \text{ " " } R = 3.20 + 0.0160V + 0.00136V^2$$

where R = Resistance in lb. per short ton (Davis)

or Resistance in lb. per long ton (I.S.R.)

w = weight per axle in short ton (Davis)

N = number of axles (4) (Davis)

W = weight of coach in long ton (I.S.R.)

V = speed in m.p.h.

A = Cross-sectional area in sq. ft. (Davis formula)

Converting the Davis formula to long tons and expressing the air resistance separately and not in terms of weight this can be written as

$$R = \left[\left(1.46 + \frac{29}{w} \right) + (0.034V) \right] \text{ per ton} + 0.00034AV^2$$

To appreciate the difference between the above formulae Table I has been prepared, and in which the air resistance has been expressed separately and not in terms of weight, since this component is strictly a measure of external form and proportions. In the case of the Davis formula the cross-sectional area is taken at 120 sq. ft. which is not very different from that of the coaches used in the Indian trials.

TABLE I

Weight of coach, Tons	Formula	A		BV	CV ²
		Lb per ton	Lb. per ton	Lb. per ton	Lb.
30	Davis	5.3	0.034V	0.0408V ²	
30	I.S.R.	3.2	0.0375V	0.0615V ²	
40	Davis	4.36	0.034V	0.0408V ²	
40	I.S.R.	3.2	0.0239V	0.0644V ²	
50	Davis	3.78	0.034V	0.0408V ²	
50	I.S.R.	3.2	0.016V	0.0680V ²	

While it is not the purpose of these notes to compare the two formulae, nevertheless it may be noted that the rolling resistance component A is constant for all weights in the I.S.R. and reduces with increase of weight in the Davis. The flange resistance B is constant as a function of speed in the

Davis formulae, where it falls with increase of weight in the I.S.R. The air resistance constant C is from 50 to 66 per cent. higher in the I.S.R. formulae.

Fig. 1 shows the resistance of a 40-ton coach calculated on the basis of the foregoing data, and it will be observed that up to a speed of 55 m.p.h. the I.S.R. values are the lower, in the Indian report the formulae were given as valid up to a speed of 70 m.p.h. but this has been extended to 80 m.p.h. for the purpose of this study.

Percentages of Total Resistance

Much more revealing than a comparison of resistances is an analysis of the relative percentages of total resistance allocated to the air, journal, and flange at different speeds. This is shown in Fig. 2 for a 40-ton coach, and indicates that, where high speeds are contemplated, attention to the external form of the vehicle to reduce air resistance is well worth while. This is particularly so in the case of the I.S.R., where at speeds in excess of 50 m.p.h. the air resistance is more than half the total resistance of the vehicle.

Since, as shown in Fig. 1, the resistance is approximately equal by both formulae at a speed of 55 m.p.h., the relative percentages at this speed have been indicated on the diagram. These are as under:—

	Air Per cent.	Rolling Per cent.	Flange Per cent.
Davis formula	33	47	20
I.S.R. "	52	34	14

With such disparity in the composition of the resistance one might anticipate some considerable difference in the power requirements for variations in coach weight. Figs. 3 and 4 have been prepared to show the effect of a 10-ton increase or decrease in weight as compared with a coach of 40-ton weight. Despite the disparity in the formulae there is little difference between the Davis and I.S.R. as regards extra drawbar h.p. required for a 50-ton coach, or in reduction of drawbar h.p. with a 30-ton coach. There is, however, a greater difference in the increase or decrease in speed for 100 h.p. at the drawbar.

The foregoing is shown in Table 2 in terms of 12-coach train at a speed of 70 m.p.h.

TABLE 2

On level at 70 m.p.h.				Davis formula			I.S.R. formula		
Weight of coach, ton	Weight of train, ton	Weight reduction, ton	Per cent. weight reduction	D.h.p. required	Reduction in d.h.p.	Per cent. reduction	D.h.p. required	Reduction in d.h.p.	Per cent. reduction
50	600			1,140			1,230		
40	480	120	20	1,055	85	7.5	1,145	85	6.9
30	360	120	25	968	87	8.3	1,066	79	6.9
30	360	240	40	968	172	15.1	1,066	164	13.3

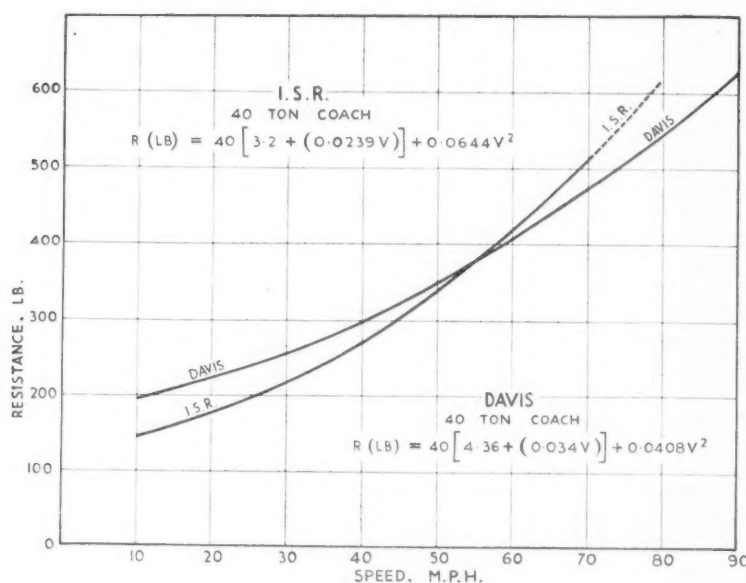


Fig. 1—Resistance of 40-ton coach

An examination of Table 2 reveals that on railways where gradients are of minor importance the choice lies between the extra expense in the cost of special materials and constructional methods to obtain a reduction in rolling stock weight, as compared with the capital outlay in providing additional power in the locomotive. In other words, can a 20 to 25 per cent. reduction in weight be obtained in a 12-coach train for a lower cost than building an extra 100 to 120 h.p. into a locomotive capable of developing, say, 1,100 h.p. at the drawbar at a speed of 70 m.p.h.

When gradients are severe and frequent the lighter weight train has, of course, a definite advantage, but the incidence of such gradients in terms of the total length of run must also be duly considered. Table 3 on page 70 shows the drawbar horsepower required at different speeds and grades.

The preceding table was calculated using the Davis resistance figures. The economy in drawbar horsepower shown in the table is worth seeking, particularly when it is appreciated that a 200-ton locomotive at the head of the train would on the 1/100 gradient at 30 m.p.h. require nearly 360 h.p. extra for the gradient alone.

Reduction in Weight of Rolling Stock

Reduction in weight of rolling stock also permits better acceleration for the same power, but this aspect has not been considered in this study since acceleration is more a question of locomotive power characteristics than train weight, and has not the same importance in main-line work as in suburban short distance frequent stop services where in fact it is all important.

When weight reduction of coaching stock is under consideration the use of high-strength lightweight alloy materials is often mooted. Before considering these, it is worth while analysing the

weight of existing coaching stock and breaking these down into groups of bogies, underframe, body structure, and so on. Such an analysis will often reveal ample scope for weight reduction in those parts of the structure which are

either lightly stressed or take no part in load carrying.

Reference has already been made to the present trend towards increasing passenger comfort and convenience often at the expense of revenue earning seating capacity, and invariably involving increased weight. When air conditioning is being considered for new coaching stock the necessity of having to provide permanently closed windows presents the coach designer with an opportunity to provide a much cleaner external contour which, while not approaching the refinement of streamline form, should nevertheless reduce air resistance. This in turn will tend to mitigate the effect of any increase in weight involved in double windows, improved insulation, and the installation of the air conditioning equipment.

Merely as an indication of what may be done in this respect the diagrams shown in Figs. 5 and 6 have been prepared. Fig. 5 shows the effect of reducing the air resistance of a 50-ton coach by 15 per cent. when using the Davis formula, and Fig. 6 shows the effect of a 10 per cent. reduction by the I.S.R. formula.

It will be observed that resistance of the 50-ton coach with partial streamlining is very close to that of a normal 40-ton coach at speeds in excess of 70 m.p.h., and at 45 m.p.h. is midway between that of a 40-ton and 50-ton

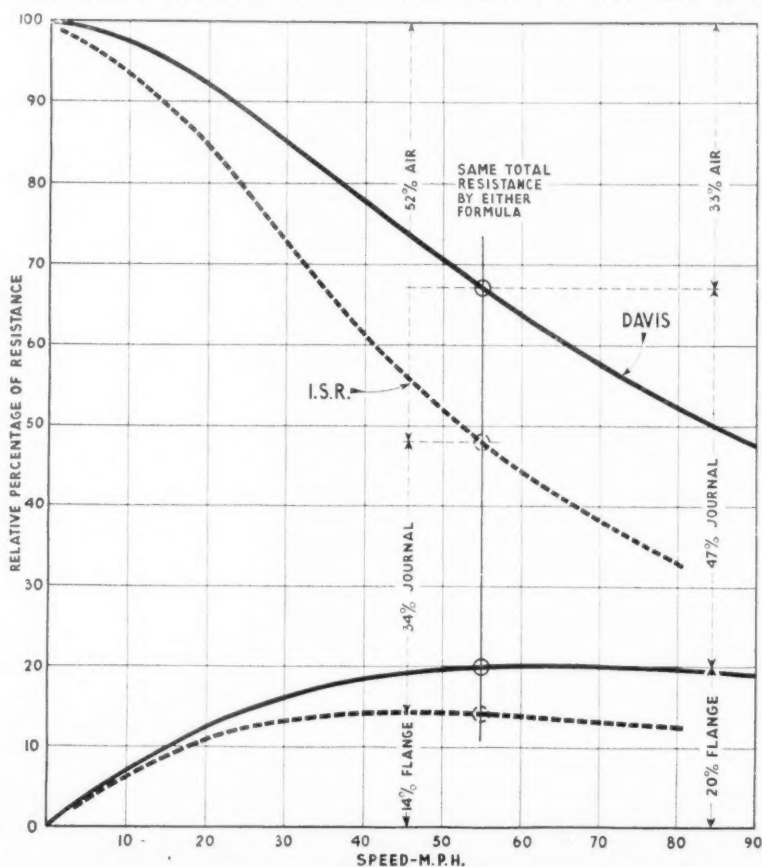


Fig. 2—Comparative percentage of total resistance

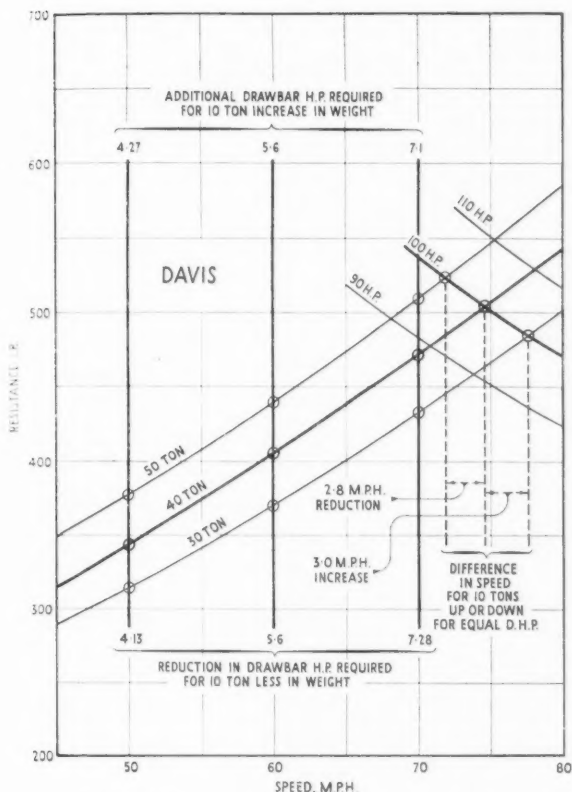


Fig. 3—Resistance and horsepower difference by the Davis formula

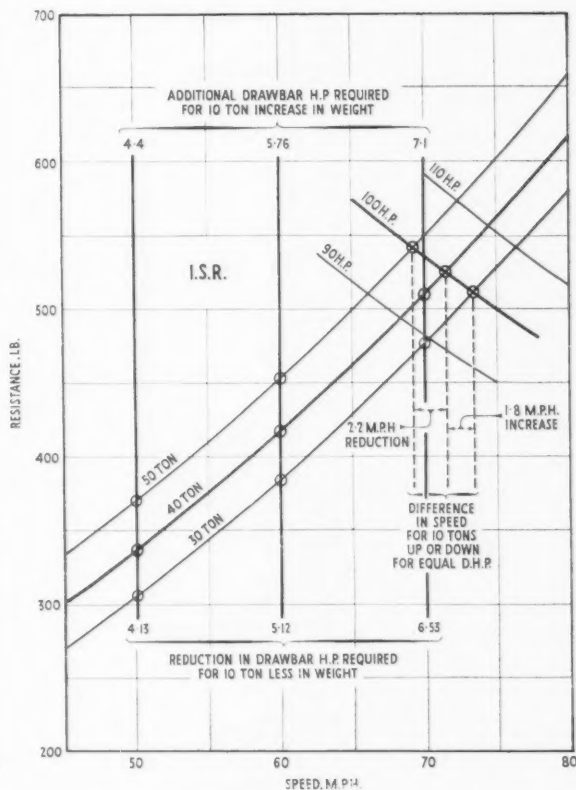


Fig. 4—Resistance and horsepower difference by the I.S.R. formula

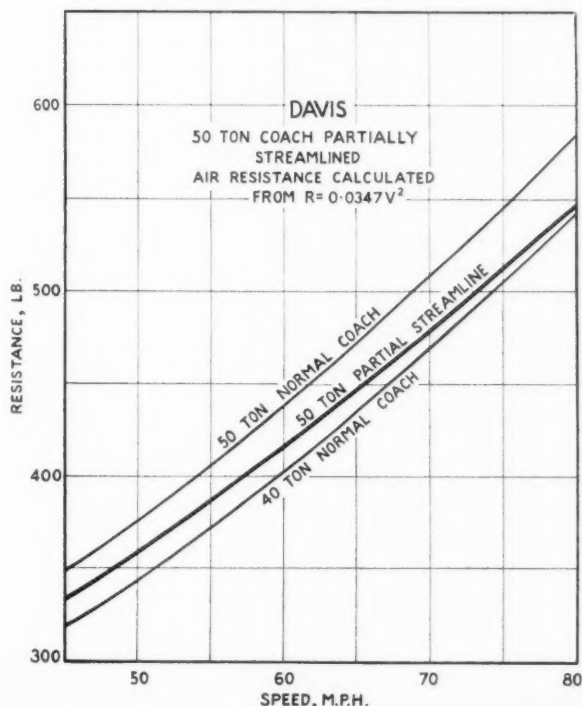


Fig. 5—Diagram showing effect of 15 per cent. reduction in air resistance

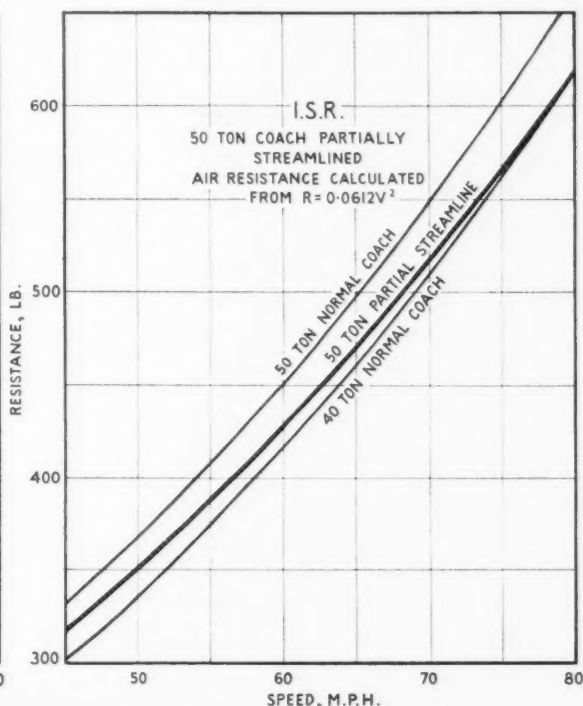


Fig. 6—Diagram showing effect of 10 per cent. reduction in air resistance

TABLE 3

Speed	Gradient	Weight of train ton	d.h.p. required	Reduction in d.h.p.	Per cent. reduction
50 m.p.h. ...	1 200	600	1,500		
		480	1,270	230	15.3
		360	1,040	230	18.1
40 m.p.h. ...	1 150	600	1,365		
		480	1,140	225	16.4
		360	915	225	19.7
30 m.p.h. ...	1 100	600	1,335		
		480	1,100	235	17.6
		360	865	235	21.4

normal vehicle. Such a reduction in air resistance should be readily obtainable in a coach with closed windows and a reasonably faired contour, particularly

when such conditions are compared with those of a coach with windows open and inset doors or vestibules all acting as a kind of air brake. It may be

added that the recommended reduction for streamline form with the Davis formula is 30 per cent.

If weight reduction can be combined with some degree of streamline form an appreciable drop in resistance can be obtained, always provided that the operating speeds are such that any additional outlay involved in streamlining can be offset by operating economies.

While reduction in the tare weight of coaching stock is always desirable, the effect of it in terms of locomotive power is sometimes exaggerated, and these notes have been prepared in an attempt to show that the relative value of reduced weight is greatly dependent on the physical character of the line, and dependent in particular on the incidence of gradients.

R.C. Poppet Valve Gear Drive

A development which provides a camshaft drive without recourse to spline shafts and gearing

AN invention, relating particularly to steam locomotives, in which steam distribution is effected by means of poppet valves actuated by rotary cams, has been designed by Jupiter Steam Appliances Inc., 521, Fifth Avenue, New York, 17, N.Y. The mechanism, known as the Simplex camshaft drive, forms the subject of a recently granted British Patent No. 626,369.

Simplification of design is the basis of the invention, as the camshaft drive is obtained without recourse to spline

shafts and gears, a feature of importance from the running shed maintenance point of view. This camshaft drive has been fitted to a locomotive having poppet valve gear with the conventional drive, retaining the existing cylinders.

The locomotive, which is of the 4-8-4 design, is operating on heavy freight services on a North American railway, and it is claimed that the initial results point to substantial economies. Among the objects of the

invention is the provision of a simplified means for the transmission of synchronised rotary movement from the driving crank to the camshaft; the drive is arranged through a series of links and driving rods with the necessary pins. The mechanism is located outside the locomotive frame.

As will be seen from the diagram, Fig. 1, the rotary cam is connected to the crosshead arm through a cam driving rod, a secondary link, a swinging arm, a fulcrum arm, a crosshead connecting link, a return crank, and a take-off rod.

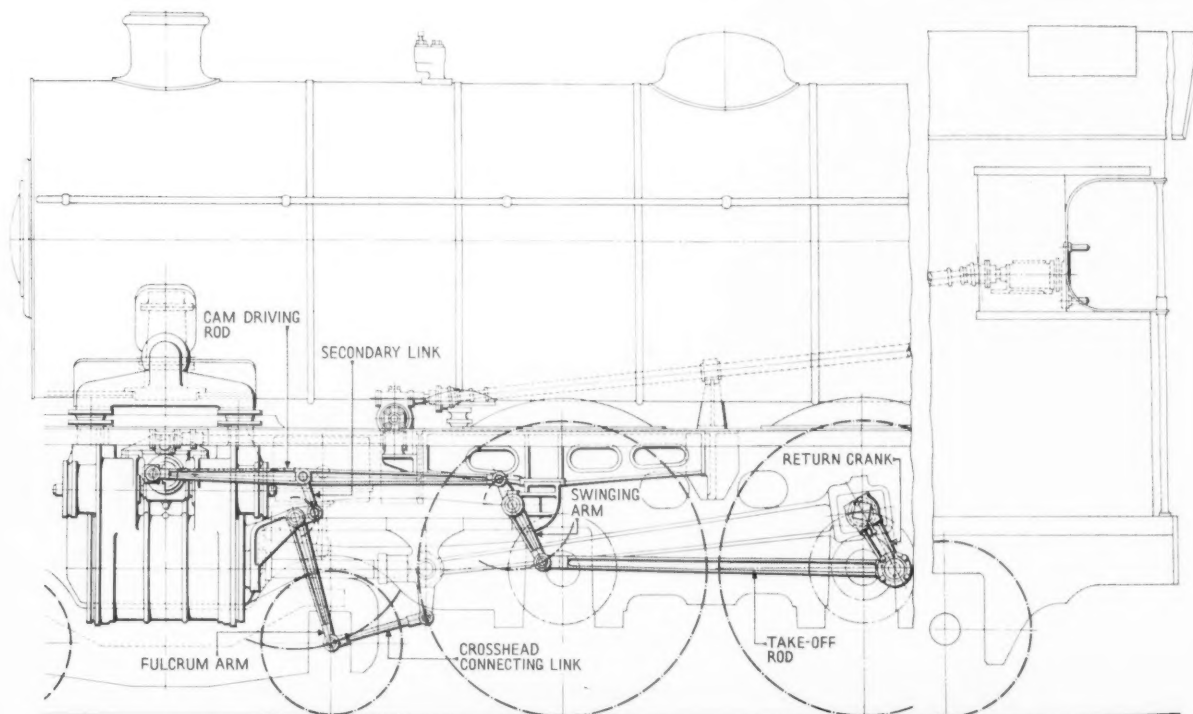


Fig. 1—Diagram of mechanism as fitted to a 4-6-2 locomotive

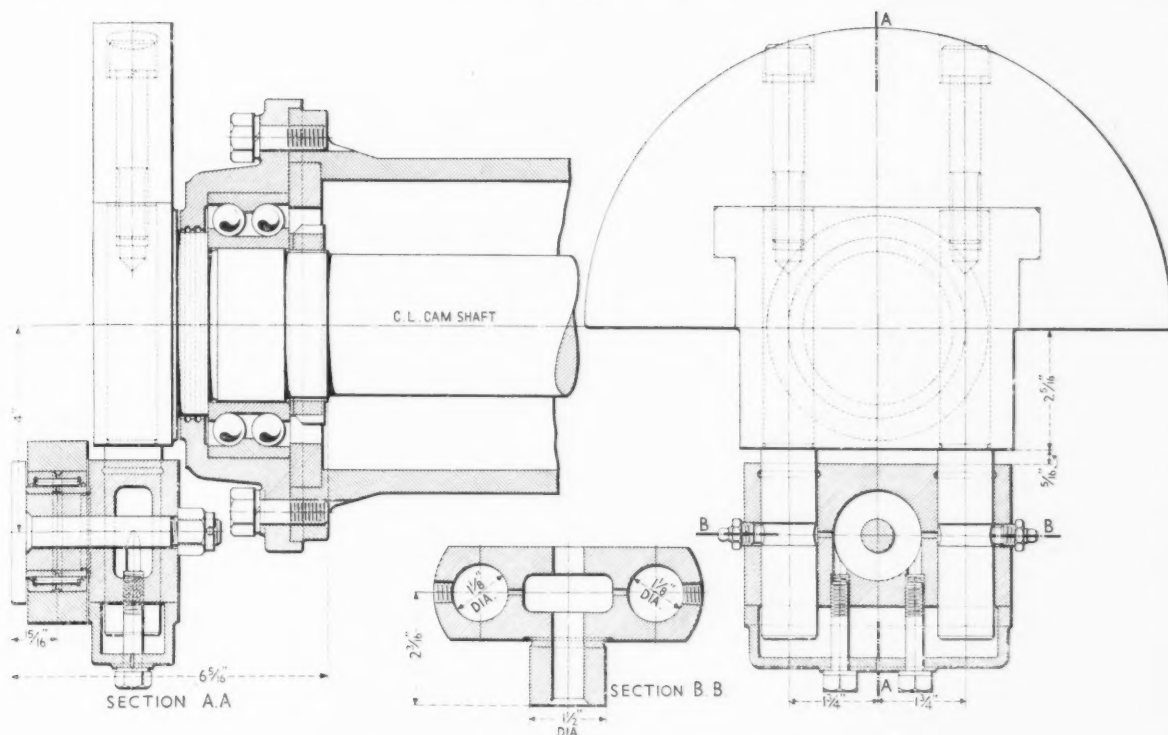


Fig. 2—Sections of the cam connecting rod drive and compensator

take-off rod from the return crank is connected at the fork end to a swinging arm, which is in turn connected to the fork end of the cam driving rod.

The rear cylinder cover is extended to provide carrying pins for the secondary link and fulcrum arm, while a bracket on the motion girder is pro-

vided to take the swinging arm centre pin. The driving member or compensator, secured to the camshaft, shown in Fig. 2, engages with two parallel guide pins on which it is free to move radially in a vertical direction to find its own position without subjecting the mechanism to stresses.

It is claimed that the functioning of the mechanism is such that, when it is fitted to an existing locomotive with poppet valve gear, the availability figure is increased considerably; the design is somewhat similar to the Walschaerts valve gear, with which type running shed staff are familiar.

NEW STEEL PRICES ORDER.—Maximum prices of a limited range of iron and steel products, mainly those affected by the recent increase in the price of nickel, are amended under a new Order made by the Minister of Supply. The Order, the Iron & Steel Prices (No. 2) Order, 1950, came into operation on July 17. The main alterations are in the prices of alloy steel billets according to quality, and the Order also increases the prices of other alloy and stainless-steel products. Copies may be obtained from H.M. Stationery Office or through any bookseller.

FURTHER METROVICK ORDER FOR BRAZIL.—The Metropolitan-Vickers Electrical Co. Ltd. has received an order for another ten electric locomotives for Brazil. They are similar to the fourteen 1,070-h.p. locomotives for the Rêde Mineira de Viçao now building, and are for the Curitiba-Paranagua line (Rêde de Viçao Parana-Santa Catarina). These are metre-gauge lines being electrified at 3,000 volts d.c.; and the locomotives are designed for mixed-traffic service. The driving motors, with auxiliary electrical machines, will be made at the Metrovick works at Attercliffe Common, Sheffield, and the control equipment at Trafford Park works; the mechanical parts will be constructed at the Metropolitan-Vickers-Beyer, Peacock

works situated at Stockton-on-Tees. The locomotives are 50-ton units of the Bo-Bo type, equipped with four 265-h.p. axle-mounted traction motors driving through rubber-resilient gears. The one-hour-rated tractive effort is 16,050 lb. at 25 m.p.h. The control will be electro-pneumatic with series-parallel combinations and field weakening. Rheostatic braking will be provided for the Serra gradients. As speeds up to 50 m.p.h. are required, the M-V swing-link suspension and other special constructions have been adopted to ensure continuous smooth riding.

INTERNATIONAL RAIL TRANSPORT TARIFFS.—The *ad hoc* Working Party on Tariffs of the United Nations Economic Commission for Europe opened its first session in Geneva on July 10. Experts from nine countries and two international organisations attended a four-day session. The object was to achieve a greater degree of understanding among European countries on those aspects of rail transport tariffs affecting international trade. It is hoped that agreement may be achieved on principles which may lead to an eventual unification of the nomenclature and classification of goods and of the basis of the tariff systems applied by different countries to the international transport by rail of goods and passengers. At the opening

meeting Mr. Joseph Wick, First Chief of Section, Swiss Federal Office of Transport, was elected Chairman, and Mr. René-Elie Parateau, French Ministry of Public Works & Transport, was elected Vice-Chairman. The following countries were represented: Belgium, Denmark, France, the Netherlands, Norway, Poland, the United States of America, Sweden, and Switzerland. The Central Office for International Railway Transport and the International Chamber of Commerce were also represented.

COMPENSATION TO EMPLOYEES.—The Minister of Transport has made the Transferred Undertakings (Compensation to Employees) Regulations, 1950, (S.I. 1950 No. 1083) which came into operation on July 10. These provide for the payment of compensation to those who suffer loss of employment, diminution of emoluments, worsening of conditions, or loss or diminution of pension rights as a result of the acquisition of their employers' undertakings under Part III of the Transport Act, 1947. Claim forms, with explanatory notes, can be obtained from the Secretary, Road Haulage Executive, 222, Marylebone Road, London, N.W.1, while copies of the regulations can be obtained from H.M. Stationery Office or through any bookseller, price 4d.

Acton and Chiswick Works, London Transport

Railway rolling stock and road vehicle overhaul and repair shops

THE overhaul of rolling stock operating on the London underground group of railways was at one time effected in repair shops at various running depots. With the growth of the London Transport system, however, the natural solution was a single depot where all periodic overhauls could be carried out.

The central overhaul depot at Acton was opened in 1922, though consider-

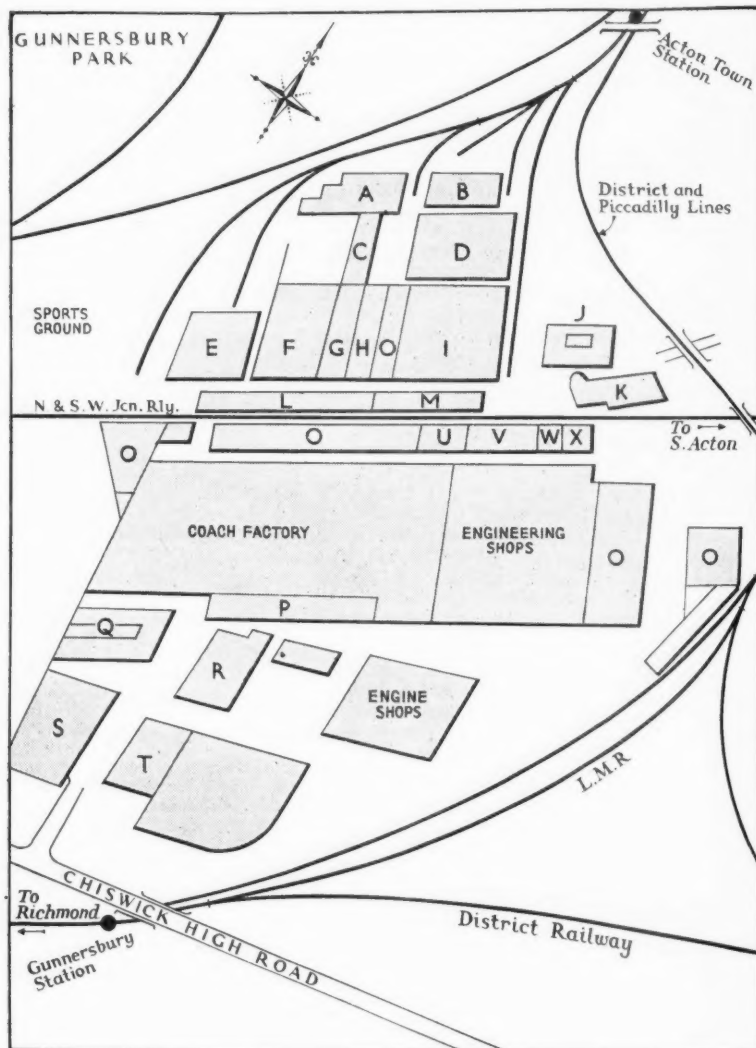
able extensions and modifications in the layout were made from time to time, notably that approved in 1936 after the formation of the L.P.T.B., when the works accepted responsibility for the rolling stock of the former Metropolitan Railway. Though the extensions then planned were completed before the war the new arrangements of the existing shops were necessarily delayed for some years.

A further important stage in improving the Acton Works was reached in 1949, when extensive alterations were completed to the car body shop, which was used for the overhaul of tanks and armoured vehicles during the war. These extensions were the subject of an illustrated article in our issue of March 4, 1949.

These works of the London Transport Executive now cover 50 acres and some idea of their extent can be gained from the accompanying diagram and the photograph reproduced on the opposite page. Some 9½ acres of the works are under cover and the works staff totals approximately 2,000 at the present time. Here routine overhauls to railway rolling stock are carried out every 200,000 miles and major repairs are carried out as required.

Adjoining the Acton Works are the road vehicle repair shops of the London Transport Executive. These works were originally opened in 1921 and now employ a total works staff of approximately 4,000. They extend over an area of 31 acres of which 15 acres are under cover.

As will be seen from the same diagram the main Chiswick Works are divided into two principal parts, namely, the coach (or body) factory, and the engineering works. At Chiswick routine overhauls to road service vehicles are carried out every 100,000 to 150,000 miles and major repairs when needed.



Key to plan of Acton Works:

- | | |
|----------------------|------------------------|
| A. Motor shop | H. Reconstruction shop |
| B. Trimming shop | I. Truck shop |
| C. Plant section | J. Main offices |
| D. Lifting shop | K. Canteen |
| E. Heavy repair shop | L. Machine shop |
| F. Car body shop | M. Tool room |
| G. Paint shop | |

Key to plan of Chiswick Works:

- | | |
|--------------------|----------------------|
| O. Stores | T. Training school |
| P. Electrical shop | U. Boiler house |
| Q. Main offices | V. Plant maintenance |
| R. Canteen | W. Welding shop |
| S. Ticket office | X. Foundry |

ALDERSHOT & DISTRICT TRACTION COMPANY.—For the year ended May 31, 1950, the directors of the Aldershot & District Traction Co. Ltd. recommend a final ordinary dividend of 12 per cent., and a bonus of 7½ per cent., making a total distribution of 27½ per cent. (as for the previous year). The net profit was £74,304 (£102,348) after tax, but before transferring £50,000

(£50,000) to general reserve. Income tax amounted to £4,319 as compared with £21,717 in the previous year.

RENOLD & COVENTRY CHAIN COMPANY.—The final ordinary dividend for the year ended April 2, 1950, of the Renold & Coventry Chain Co. Ltd., is 12 per cent., making a total of 15 per cent. (the same

as for the preceding year). Group profits, after charging £288,541 (against £243,883) for depreciation and renewals of tools, but excluding results of the French subsidiaries were £561,920 (£523,844). Tax amounted to £242,980 (£259,585), leaving a net profit of £318,940 (£264,259), all attributable to members of the holding company.

Acton and Chiswick Works, London Transport



Aerial view showing for the first time in one picture (above) the London Transport railway rolling stock workshops at Acton and (below) the Chiswick road vehicle overhaul and repair works (see key plan on opposite page)

Tourist Train in Sweden

(See editorial note page 58)



Special tourist train of the Swedish State Railways at Stockholm Station before leaving on an eight-day tour to the Arctic Circle. Note the "Midnight Sun" emblem on the coach



The cocktail bar



Dancing in the saloon

RAILWAY NEWS SECTION

PERSONAL

The peerage conferred in the King's Birthday Honours List on Sir Cyril Hurcomb, G.C.B., K.B.E., Chairman of the British Transport Commission, has been greeted by the name, style, and title of Baron Hurcomb, of Campden Hill in the Royal Borough of Kensington.

BRITISH TRANSPORT COMMISSION

The Minister of Transport has announced that he has re-appointed Captain Sir Ian Bolton, Bt., O.B.E., and has appointed Lt.-Colonel Steven J. L. Hardie, D.S.O., LL.D., to be Members of the British Transport Commission, on a part-time basis. Lt.-Colonel Hardie is Chairman of the British

1946 Mr. MacGregor was appointed Assistant District Superintendent, Kings Cross; he became District Superintendent, Lincoln, in September, 1949.

Mr. R. D. Steele, A.M.I.Mech.E., Western Divisional Motive Power Superintendent, British Railways, Southern Region, who, as recorded in our March 10 issue, has been appointed District Motive Power Superintendent, Nine Elms, commenced his railway career as a pupil of Mr. R. W. Urie and Mr. R. E. L. Maunsell at Eastleigh Works in 1923, and after subsequent experience in the locomotive running department was appointed Locomotive Foreman at Redhill in 1932. He later held similar positions at Eastbourne,

Earl de la Warr has been appointed a director of the Brush Electrical Engineering Co. Ltd.

Mr. E. Havers, District Goods Superintendent, Reading, British Railways, Western Region, has been appointed to the position of Assistant to the Commercial Superintendent (Mineral), Paddington Station.

Mr. B. J. Haill, Production Superintendent of the Dunlopillo Division at the Dunlop Rubber Co. Ltd. Walton factory, has been appointed Works Manager of the Company's new factory on the Hirwaun Trading Estate in South Wales. He is succeeded at Walton by Mr. A. Taylor.



Mr. I. G. MacGregor

Appointed District Operating Superintendent, Darlington, British Railways, North Eastern Region



Mr. R. D. Steele

Appointed District Motive Power Superintendent, Nine Elms, Southern Region



Mr. J. Rodgers

Appointed District Motive Power Superintendent, Brighton, Southern Region

Oxygen Co. Ltd., and its associated companies. Sir Ian Bolton is a Deputy-Lieutenant for Stirlingshire; a member of McClelland, Ker & Company, chartered accountants, of Glasgow and London; and a Director of the Scottish Widows Fund, Scottish American Investment Co. Ltd., Coltness Iron Co. Ltd., and Hamilton & Kinneil Estates Limited.

Mr. I. G. MacGregor, District Operating Superintendent, Lincoln, British Railways, Eastern Region, who has been appointed District Operating Superintendent, Darlington, North Eastern Region, joined the L.N.E.R. as a traffic apprentice in 1931. In 1934 he became Supernumerary Assistant to the District Superintendent, Stratford, and in 1935 took up a similar appointment at Doncaster. Mr. MacGregor was appointed Yardmaster, Woodford & Hinton, in 1936, and a year later was made Deputy Chief Controller, Superintendent's Office, Liverpool Street, a post he held until 1939, from which time he was absent on war service until 1945. While in the Army he was recorded as appointed Assistant to the District Superintendent, Lincoln (in 1944), and Assistant to the District Superintendent, Norwich (in 1945), to which post he returned from the services in 1945. In

St. Leonards and Bournemouth, until his appointment as Running Shed Superintendent, Exmouth Junction, in 1942. In 1945 Mr. Steele became Assistant Western Divisional Motive Power Superintendent at Woking, and later Assistant to the Motive Power Superintendent, Waterloo. In 1947, he was appointed Western Divisional Motive Power Superintendent, which position he held until the recent reorganisation of the Southern Region Motive Power Department.

Mr. Aitken Walker has been appointed Freight Traffic Manager for the Eastern Region of the Canadian Pacific Railway.

Mr. G. H. Binnie, Works Manager, Nigerian Railway, is now on leave in the United Kingdom and will be representing the Nigerian Railway at the forthcoming session of the International Railway Congress in Rome.

Mr. G. J. A. Lindenberg, until recently Chief Technical Manager, South African Railways, Johannesburg, who, as recorded in our June 23 issue, has been appointed Advisory Engineer, South African Railways, Office of the High Commissioner for the Union of South Africa, London, is arriving at Southampton today, July 21.

Mr. W. H. Hall has been appointed Assistant Secretary to the Peruvian Corporation Limited and Mr. A. S. Clegg has been appointed Stores Superintendent.

We regret to record the death in Rome, at the age of 88, of Mr. Pasquale Bandetto, engineer, who, with his father, supervised the construction of the Eritrean Railway between Asmara and Massawa.

Mr. J. Rodgers, A.M.I.Mech.E., Assistant to the Motive Power Superintendent, Waterloo, British Railways, Southern Region, who, as recorded in our March 10 issue, has been appointed District Motive Power Superintendent at Brighton, received his general education at Glasgow and Brighton. He commenced his railway career as an engineer's apprentice in 1920, under Colonel Billinton at the L.B.S.C.R. Brighton Works and during this time was a student at Brighton Technical College. Shortly after the conclusion of his apprenticeship, Mr. Rodgers was appointed Technical Assistant in the Chief Mechanical Engineer's Testing Department at the time when duties in connection with testing and indicating on the "King Arthur" and "Lord Nelson" class locomotives were carried out. He was transferred to the Motive Power Department in 1933 and



Mr. J. S. Nicholl

Appointed Chief Officer (Research & Charges),
Road Haulage Executive
[Elliott] *[& Fry]*



Mr. J. B. Garrett

Appointed Chief Officer (Organisation),
Road Haulage Executive



Mr. Peter Scott

Appointed Publicity Manager to The
English Electric Co. Ltd.

until 1945 was successively Locomotive Foreman at Yeovil, Tonbridge and Guildford. In 1945 Mr. Rodgers became Locomotive Shed Superintendent Exmouth Junction and subsidiary depots, and in 1947 he was appointed Assistant to the Motive Power Superintendent, Waterloo.

Mr. J. S. Nicholl, C.B.E., Chief Officer (Organisation & Development), Road Haulage Executive, who, as recorded in our issue of June 23, has been appointed Chief Officer (Research & Charges), with responsibility for road/rail integration charges schemes, licensing and research, was educated at Sutton Valence, and became associated with the transport industry in 1904, when he joined the office staff of the Union-Castle Line. Subsequently, in western Canada, he served for a short period as Office Manager to the Chief Engineer of the Hudson Bay & Pacific Railway, and afterwards qualified as a chartered accountant and practised in Saskatchewan and Alberta. During the war of 1914-18 he served on the staff of the Auditor & Controller of the Imperial Munitions Board, Ottawa, and eventually was appointed Deputy Auditor & Controller. In 1920 he joined Sir Maxwell Hicks, then Receiver & Manager of McNamara & Co. Ltd., and served as Chief Accountant until the reconstruction of the company in 1921, when he joined the firm of Maxwell Hicks & Company, Chartered Accountants, the firm managing McNamara & Co. Ltd., and was appointed Chief Executive Officer of the company. He became a member of the Transport Advisory Council at its inception in 1934, and in 1938 he was a member of the McLintock Committee appointed to inquire into transport in Northern Ireland. Mr. Nicholl played an important part in the wartime organisation of the road haulage industry, both on the Ministry of War Transport operational committees and on the Producer Gas & Alternative Fuels Committee of the Ministry of Fuel & Power. He is the author of a number of papers on matters of road-transport interest, and was awarded the Institute of Transport (Road Transport) Gold Medal for the 1934-35 session; he was President of the Institute of Transport for 1941-43.

Mr. Nicholl was a member of the Road & Rail Central Conference from its inception (and Chairman of its Classification Committee), and is a member of the National Civil Aviation Consultative Council. At the time of his appointment as Chief Officer (Organisation & Development), Road Haulage Executive, in December, 1948, he was Vice-Chairman & Chief Executive Officer of McNamara & Co. Ltd.

We regret to record the death on July 7 of Mr. N. Gunn, Director & Secretary of Mullard Electronic Products Limited and of its associated companies.

On July 14, the French Consul at Folkestone, Mr. F. Didot, presented the Cross of the Chevalier of the Legion d'Honneur to Captain H. L. Payne, O.B.E., R.D. Officier du Merit Maritime. Captain Payne, a Doverian, is Commodore of the S.R. Dover and Folkestone Fleet, and commands the "Golden Arrow" ship *s.s. Invicta*.

Mr. J. B. Garrett, M.Inst.T., Divisional Manager, Eastern Division, Road Haulage Executive, who, as recorded in our June 23 issue, has been appointed Chief Officer (Organisation) at Road Haulage Executive headquarters, will be responsible for planning and development, acquisition and valuations, projects and permits. He joined the London staff of James W. Cook & Co. Ltd. in 1929, and became London transport manager in 1934. As an officer on the Reserve he was recalled in September, 1939, and served with the R.A.S.C. until his release at the end of 1940, when he returned to James W. Cook. In 1942 Mr. Garrett was recalled to the Army, but again released to become Divisional Road Haulage Officer, South-Eastern Division, Ministry of Transport Road Haulage Organisation. He was again recalled to the Army at the end of 1944 and appointed Colonel in charge of the Road Transport Section, Military Government, 21 Army Group. In 1945 he became Deputy Director General of the Highways & Highway Transport Branch of the Transport Division, Control Commission for Germany. Mr. Garrett was, in 1946, re-appointed Divisional Road Haulage

Officer, Metropolitan Division, Road Haulage Organisation, and later the South-Eastern, Southern and Eastern Divisions were added. He joined the Road Haulage Executive as Divisional Manager, Eastern Division, in July, 1948, which post he has now relinquished.

We regret to record the death, at the age of 86, of Sir H. Haydn Jones, M.P., Secretary & Manager of the Tallylyn Railway, North Wales.

Mr. Peter Scott, who, as recorded in our July 14 issue, has been appointed Publicity Manager to The English Electric Co. Ltd., has been connected with advertising for some 20 years. Mr. Scott joined Lever Brothers in 1927 and remained with the Lever Organisation until 1937; he was with Lever House Advertising Service at the time of its reorganisation as Lintas Limited. Following his work with Lintas he took up an appointment as Assistant Publicity Manager to Allied Newspapers, Withy Grove, Manchester, and subsequently went to Thos. Hedley & Co. Ltd. as Assistant Advertising Manager. For the past five years Mr. Scott has been Sales & Advertising Manager of the Broadcast Relay Service Organisation.

LONDON TRANSPORT CENTRAL ROAD SERVICES ORGANISATION

In connection with the South London tram conversion programme which commences in October, London Transport Executive announces that a new organisation has been introduced to cover all road services in the central area. The Central Bus and Tram & Trolleybus operating sections have been amalgamated in a single organisation under the Operating Manager (Central Road Services), Mr. J. B. Burnell. Mr. P. G. Gibbins, previously General Superintendent (Trams & Trolleybuses), has been appointed General Superintendent (Central Road Services) and becomes deputy to the Operating Manager. Mr. C. J. Mays, Schedules Superintendent (Road Transport), will continue to report to the Operating Manager (Central Road Services), and to be responsible directly to the Operating Manager (Country Buses & Coaches) for country service schedules.

Southern Region Lecture & Debating Society

History and scope of a growing educational movement

By R. A. Savill

Early in July this year fell due the twenty-first anniversary of the formation of the Southern Region Lecture & Debating Society, and it is, therefore, an appropriate time to review briefly the history and scope of this growing movement in railway education, as railway lecture and debating societies are flourishing not only on the Southern Region, but also in the Western and North Eastern Regions.

An attempt to form a L.S.W.R. Lecture & Debating Society in 1900 did not prove lasting, and it was not until July 3, 1929, that the present Southern Railway Lecture & Debating Society was founded. Lectures and debates on a variety of railway subjects were held regularly at both Brunswick House, Nine Elms, and at the Chapter House, London Bridge, and membership grew rapidly, reaching 300 in 1930, 500 in 1934, and 700 in 1939. The Society's activities were virtually completely suspended during the 1939-45 war, and despite initial difficulties in its post-war reconstruction, it was flourishing again by the 1946-47 session, and membership reached the record figure of 1,000 early in 1950.

Meetings

The Society's indoor meetings have comprised lectures by persons of eminence in the railway service and in other branches of the transport and tourist industry, and the programme of lectures for each winter session is carefully arranged by the Society's Committee (which represents all departments functionally and all suburban areas geographically) to include the widest variety of subjects of transport interest.

Debates are also held from time to time on controversial railway subjects at which all members are encouraged to speak their views. A prize essay competition on a railway subject is also held annually by the Society, and the prize-winners are invited to read their essays at the annual general meeting in April, presided over by the Chief Regional Officer. Money prizes are awarded.

Visits have played an important part in the Society's activities from its inception, and parties of members have regularly inspected transport installations in the London area and further afield. In 1948 a weekend Continental visit was arranged to railway and port installations at Dunkirk, followed by a similar visit to the S.N.C.F. at Arras in 1949; several parties of French railwaymen have, in exchange, since been conducted over Southern Region installations by the honorary officers of the Southern Society.

The Society possesses a comprehensive library of transport literature, which was first opened on January 1, 1932, with 105 books, and all members may borrow books by railway postal service, or by personal application.

The objects, briefly, are to make available to Southern Region railwaymen of all grades and departments the opportunity of observing what happens in sections of the railway industry other than their own. In this the Society fills and important gap, for its activities may be said to lie between the Institute of Transport and the official educational classes organised by the Regions, which generally are confined to a man's own departmental functions.

A special programme of meetings and visits is being arranged this year to cele-

brate the twenty-first anniversary, commencing with the twelve-day visit to the South of France last month, in which over 60 members took part, and reference to which was made in *The Railway Gazette* of July 14. In September, the Society is to hold an anniversary dinner at the Abercorn Rooms, at which Mr. C. P. Hopkins, President, will be in the chair, supported by many of the Society's Past-Presidents.

Locomotive Naming at Doncaster

A locomotive naming ceremony was held at Doncaster Central Station on July 13, when three Class "A1" Pacifics, which were built at Doncaster works, were named *Archibald Sturrock*, *Patrick Stirling*, and *H. A. Ivatt*.

In unveiling the nameplates on the engines, Mr. H. G. Ivatt, Chief Mechanical Engineer, London Midland Region, British Railways, said that Archibald Sturrock was responsible for building the plant at Doncaster, and was the first to appreciate that ample steam and large boilers were essential for railway locomotion. Patrick Stirling would be remembered for his Stirling singles, through which the former G.N.R. achieved its reputation for speed, and H. A. Ivatt for his Atlantic locomotives.

Mr. A. J. White, Assistant Chief Regional Officer, Eastern Region, representing Mr. C. K. Bird, Chief Regional Officer, Eastern Region, presiding, said he was glad to see at the ceremony members of the workshop staff from the Doncaster works who were turning out modern locomotives conforming to the highest traditions established and maintained by mechanical engineers during a century of locomotive engineering development.

It was appropriate to mention, also, that

they were within a few days of the centenary of the opening of the Great Northern route from London. The trial run from a temporary London terminus at Maiden Lane ran to Peterborough on August 5, 1850. He referred to the traditions of the Great Northern that could still contribute to the larger loyalty all railway staff owed to British Railways.

Among the guests was Mr. Matthew Stirling, who referred to the fact that he was the only descendant of Patrick Stirling who had not become a locomotive engineer.

Others present at the ceremony included Messrs. A. H. Peppercorn, former Chief Mechanical Engineer, Eastern & North Eastern Regions; Matthew Stirling, grandson of Mr. Patrick Stirling; R. C. Bond, Chief Officer (Locomotive Construction & Maintenance); Railway Executive; J. F. Harrison, Mechanical & Electrical Engineer, Eastern & North Eastern Regions; A. E. Robson, Carriage & Wagon Engineer, Eastern & North Eastern Regions; G. C. Gold, Assistant Mechanical & Electrical Engineer; L. Reeves, Assistant Carriage & Wagon Engineer, Eastern & North Eastern Regions; J. C. Spark, Locomotive Works Manager, Doncaster; E. J. Stephens, District Operating Superintendent, Doncaster; A. R. Ewer, District Motive Power Superintendent, Doncaster; R. B. Temple, District Goods Manager, Sheffield; S. W. Jesper, Public Relations & Publicity Officer, North Eastern Region; J. E. Fisher, Stationmaster, Doncaster (Central) Station; M. B. Thomas, Public Relations & Publicity Officer, Eastern Region; and representatives of the Doncaster works.

THE METROPOLITAN RAILWAY SURPLUS LANDS CO. LTD.—Addressing the annual general meeting of the Metropolitan Railway Surplus Lands Co. Ltd., the Chairman, Sir Bernard D. F. Docker, said accounts showed a net profit in the parent company of £112,718 before taxation, compared with an annual rate of £102,980 for the previous period. Taxation this year absorbed £73,250, so that after providing for a dividend of 3 per cent., the carry over would be £43,568.



Locomotive Naming Ceremony at Doncaster: Left to right, Messrs. A. J. White, R. C. Bond, A. R. Ewer, Matthew Stirling, J. F. Harrison, H. G. Ivatt, and the Mayor of Doncaster

Ministry of Transport Accident Report

*Second Drove Crossing, Eastern Region,
British Railways; January 3, 1950*

Lt.-Colonel D. McMullen inquired into the accident which occurred at about 12.45 a.m. on January 3, 1950, at Second Drove Crossing, near Black Bank, between Ely and March, when the 10.50 p.m. train, Norwich to March, consisting of seven bogie coaches and two other vehicles drawn by a heavy mixed traffic locomotive and travelling at about 50 m.p.h., wrecked a private motor car which was following a lorry across the line, killing the two occupants instantly. There was no derailment and the train stopped in 540 yd. The wrecked car was slightly foul of the other line and was struck a glancing blow by a freight train which could not be stopped in time. It was a dark night with clouds obscuring the moon and drizzling rain.

The crossing, of occupation type, was conveyed legally to the former Eastern Counties Railway in 1858, and by 1885 a number of houses had been built nearby,

erected with. That box is always open. Time table appendices, train and other notices are kept in the gate hut, possibly the same that existed in 1885. Apparently a gatekeeper was in attendance in that year, and attendance is now continuous throughout the 24 hours, with a woman gatekeeper, wife of the local ganger, living in the gatehouse. She is relieved from 8.30 a.m. to 4.30 p.m. weekdays by a man, who occupies the hut.

A census taken shortly after the accident showed that 84 motor vehicles crossed over in 24 hours, 12 between 6 p.m. and 6 a.m. This is approximately the average daily users. About 120 trains pass daily, with speeds up to 60 m.p.h.

The following instruction was issued by the District Operating Superintendent, Cambridge, in 1937:

"This crossing is not provided with a bell or gong ringing in the block circuit.

ing under my control, and have satisfied myself that the crossing keepers are competent and have a thorough knowledge of the instructions in relation to the working of the crossing under their care, and that all notices are exhibited."

Evidence

The train driver's evidence was confirmed generally by the fireman. He said he passed Black Bank with clear signals and saw the outline of a lorry move over the crossing. He judged he narrowly missed hitting it. His fireman cried out that he had been struck on the head and collapsed, so he applied the brake and then saw what appeared to be a car on the buffer beam. He stopped on Main Drove Crossing and got the gatekeeper to telephone to Black Bank. He noticed the headlights of an up freight train and sent his fireman, now recovered, towards it with

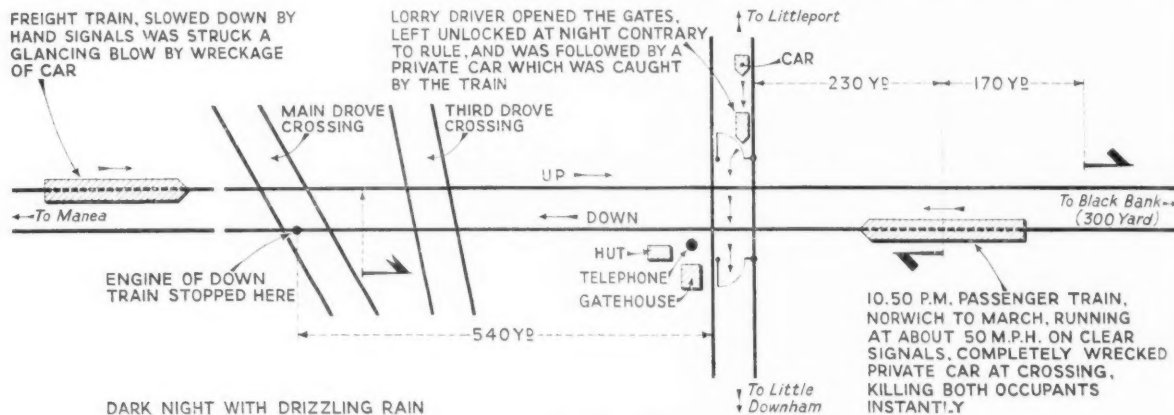


Diagram illustrating circumstances of accident at Second Drove Crossing, January 3, 1950

and there was a gate hut close to the down line, still in place in 1901. There is now a small village the only access to which is over the crossing. The present gatekeeper's house was built some time after 1901. It appears that the crossing assumed the character, if not the legal status, of a public level crossing some 60 or 70 years ago.

Good Visibility

The railway, raised above the surrounding fen country, is straight and almost level on both sides of the crossing for over a mile, and visibility in daylight is good in both directions. The driver of a train, however, cannot see clearly whether the gates are open or not, as they are set back and open away from the line. The road is also raised and straight. The main gates, renewed a year or two ago, are 77 ft. apart with standing room of about 30 ft. between each and the nearest line. They are of ordinary field type 12 ft. wide without targets or lamps and provided with chains and padlocks. There are unlocked wickets and the usual notices.

There is no signal protection, and as the block telegraph is two-position, use of block indicators is precluded. There is no bell in the block circuit, but a one-way telephone on an omnibus circuit by which the Black Bank signalman can be communi-

"The gatekeeper and his wife must make themselves thoroughly acquainted with the booked train service, and also of the running of special trains shown in the Special Train Notices.

"Before the gates are opened for road traffic the person in charge of the crossing must satisfy himself or herself that no train is approaching, and it is safe for the road traffic to pass over the crossing.

"The gates must be kept closed and padlocked when not required for road traffic.

"Where a telephone is provided the crossing keeper must ascertain from the signalman controlling the section that there are no trains approaching and it is safe to open the gates for road traffic."

In 1937 the ganger was the appointed gatekeeper, and his wife relieved him of this part of his work during the day when he was performing his duties on the permanent way.

The following is an extract from an instruction issued to stationmasters in 1939 by the District Operating Superintendent, Cambridge:—

"All crossing keepers and gatekeepers and staff employed to relieve them must be examined annually in accordance with the pamphlet 'Examination of Crossing Keepers as to their Duties,' and a certificate rendered to me as under:—
"I have regularly visited each level cross-

a hand lamp. The guard also ran towards it with one.

The guard said that, walking back towards Black Bank, he met the lorry driver, who mentioned that he had noticed car lights behind him and had only just crossed before the passenger train passed.

The lorry driver said he had used the crossing regularly with lorries for the past two weeks by day and night and had driven cars over it for four years. He was returning from the village and, seeing no light in the gatehouse, told his son, a boy of 13, to open the gates. His engine was stopped and they both looked along the line and listened. When the near gate was opened he started the lorry, drove slowly over and stopped beyond the far gate, which was by then open also.

Leaving the track, he saw headlights at a distance of about 100 yd. He heard the noise of a train on the crossing and thought nothing of it until his son told him it had struck a car which had only its side lamps alight. He then called the ganger in the gatehouse.

The lorry driver further said he had seen no lights of a car following and denied having told anyone that he had. He had two driving mirrors and could not have failed to notice such lights. He could not remember having found the gates locked at night. By day they were opened by the

attendant, but at night he sometimes opened them, particularly when he saw no light in the house. He had not come to an arrangement with the gatekeeper; out of consideration for her he sometimes opened the gates. He often used other crossings, particularly Main Drove, where the gates were always locked at night.

The woman gatekeeper had been there since 1929; up to 1943 she attended to the crossing only in the daytime while her husband was at work. From 1943 she alone worked the gates day and night until a daytime relief was appointed in 1944.

She passed the car concerned over towards the village before 8 p.m. and some other vehicles, but could not remember opening for that particular lorry. She sat up to open for the returning traffic but fell asleep. Awakened after the accident she found her oil lamp had burned out.

It was her practice to lock the gates only in foggy weather and she knew some people opened them for themselves, but not that this particular lorry driver had ever done so. She always kept the gates locked until three or four years ago when the staples were drawn. This was put right, but she had not locked the gates after that, except in fog. She could not remember the issue of any instruction and did not know there was one at the hut, which she seldom entered. She was reluctant to admit that she knew the gates should have been kept locked, nor did she remember ever being examined in the rules by any stationmaster since she was appointed, but she would not deny that she might have been examined. She was certain she had not been visited during her duty hours by any stationmaster since the relief gatekeeper was appointed. It was her practice to telephone to Black Bank only when it was foggy or there was a heavy load to be passed over; on other occasions she would look along the line and at the up signals before opening the gates. Speech on the telephone was clear but often there was delay in getting an answer to a call.

The ganger generally corroborated his wife's evidence and was aware that the gates were left unlocked at night, except during fog, and some people let themselves across. He thought he had better say he had not seen any instruction. "I do not remember seeing one," he said. He and his wife usually sat up until they thought all road traffic had passed; if there were further calls, which was often, he went down. This particular night he retired early and was awakened by the lorry driver shouting: "There was a light following me but it has disappeared and I think the train must have caught it."

The relief gatekeeper, previously signalman at Black Bank, said he had padlocked the gates since the accident but not before it. Up to that day an instruction hung on the hut wall but had since disappeared. It was faded and he had not read it. His custom was to ring up the signalman only during fog, or if there was an awkward vehicle to be passed over. From his experience in the box, this was the general practice of all crossing attendants.

The stationmaster at Black Bank had been there since June, 1948. Learning of the accident, he immediately called ambulances and went to the site. He saw the ganger and his wife, who both agreed that the gates should have been padlocked. It was his custom to visit the crossing once a week in the daytime, and he was certain that up to three weeks previously an instruction had hung on the hut wall. He read it soon after taking charge; it was then quite decipherable. He had often seen the woman gatekeeper but not visited the crossing while she was on duty as his

hours terminated at 5 p.m. and hers began only half an hour earlier. He saw her at the beginning of 1949 over a complaint of delay to road traffic and regarded the ensuing discussion as the annual examination, although he had not questioned her on rules and the subject of padlocking the gates never arose; he had, however, submitted the certificate mentioned above. He had never seen the gates locked, but road traffic was almost continuous during the daytime. He formed the opinion that the gatekeeper knew her work and considered her husband to be a responsible type of man.

The stationmaster, who had been in charge from 1945 to 1948, said he was quite satisfied that the instruction hung in the hut. He visited the crossing regularly but never at night, or when the woman gatekeeper was on duty. He had seen her on occasions in the hut and was quite certain she knew the instruction was there. He had examined her only once, in 1946, and questioned her particularly regarding the locking of the gates and use of the telephone. He admitted to sending in two subsequent competency certificates without having examined her. Questioned on the use of the telephone, he was not at all clear himself with regard to the instructions.

The stationmaster in charge from 1937 to 1943 clearly remembered the issue of the instruction in 1937, and personally taking it to the crossing and drawing attention to it. He regularly examined the woman gatekeeper on the rules, particularly on the use of the telephone and padlocks, and considered her competent. He visited both by night and by day and had found it necessary to remind her that the gates were to be kept locked.

Inspecting Officer's Conclusion

The woman gatekeeper disregarded the instructions to keep the gates locked and must bear full responsibility for the accident. They could not be misunderstood, and Colonel McMullen is satisfied that they were correctly exhibited and the gatekeeper aware of them. She had kept them locked for 16 to 17 years and no doubt knew that was her duty, of which she was reminded in 1946. The ganger cannot be entirely exonerated. He is a responsible servant and must have realised the danger arising from leaving the gates unlocked at night.

The accident was due in no small measure to the stationmaster's lax supervision and that of his predecessor. It is significant that the practice of leaving the gates unlocked has developed since the latter last examined the gatekeeper in 1946. Neither stationmaster had visited the crossing after the gatekeeper came on duty, and the excuse about his duty finishing half-an-hour later, put forward by the present stationmaster, cannot be accepted.

It was most unwise for the lorry driver to open the gates. Colonel McMullen feels sure he was aware that a car was following him. He only just avoided being in an accident himself. Had he thought for a moment he must have realised the danger to the car behind, the driver of which had his view blocked by the lorry. In following it over its occupants had every right to assume that the attendant was present and it was safe to cross.

Remarks

This regrettable accident resulted from disregard of a fundamental safety instruction that the gates must be kept locked. Consequently, road users had adopted the practice of letting themselves over, particularly at night. The telephone also was not

being used as the instructions required. With a regular night user of the crossing by motor vehicles, this was likely sooner or later to result in an accident and, while a subordinate member of the staff was seriously at fault, it was also the outcome of inadequate supervision by stationmasters over a period of four years. During the whole of this time the gatekeeper had not been visited on duty nor examined in the rules, but in spite of this annual competency certificates had been submitted.

As it was originally an occupation crossing, the gates were constructed to open away from the railway. Although it has assumed the character of a public crossing, they have not been altered. Lightly-used public crossings with such gates should be reasonably safe provided they are equipped with block indicators or telephones, and instructions are faithfully observed. There remains the possibility of misunderstanding on the telephone, as was the cause of an accident at this same crossing in 1939 in fog. It is probable that the present accident would not have occurred if the gates had closed alternately against road and rail and had been equipped with red targets and lights displaying a danger signal along the line.

Such equipment has been required at all public crossings constructed since 1858, but a considerable number of crossings over minor roads still have gates opening outwards, including 116 in the Eastern Counties alone, at some 35 of which the road traffic is as great as, if not greater than, at this crossing. In recent years the gate equipment of some has been modernised and, whatever may be the legal position, it is desirable that gates closing alternatively across railway and road should be provided at crossings which are in substance public ones. Colonel McMullen hopes that the modernisation of such crossings will be carried out as rapidly as financial considerations allow; opportunity is presented when gates become due for renewal.

LEAVING THE GATES UNLOCKED.—Under this heading an editorial note dealing with the Second Drove Crossing accident appeared in error in our July 14 issue. This week the note is repeated as our summary of the Ministry of Transport report on this accident appears in this issue.

GERMAN ZONAL BOUNDARY DELAYS.—A number of vans conveying parcel post were detached last week from trains in both directions between Berlin and Western Germany, by the Russian authorities, at Marienborn, on the British-Russian zonal boundary. The majority were released after some delay and arrived with their seals intact. No similar delays to mails at the zonal boundary have been reported since November last year.

GAS TURBINE SCHOOL RE-OPENING.—Britain's School of Gas Turbine Technology—believed to be the only one of its kind—is re-opening at Farnborough Place, Farnborough, next October. The school, maintained by Power Jets (Research & Development) Limited, has been moved because of expansion from its old premises at Lutterworth where Air Commodore Sir Frank Whittle's team designed and tested some of the earliest jet engines. Founded in 1944 to instruct Dominion Air Force personnel in aircraft jet engines, the school now gives instruction in the technicalities of the use of gas turbines in high-speed aeroplanes, locomotives, road vehicles, ships, power stations, process power, and other industrial applications. There will be four different types of courses.

Staff & Labour Matters

Engineers' Pay Dispute

The C.S.E.U. Executive Committee on July 13 decided to refer the rejection of its £1 a week claim to the Minister of Labour as a dispute under the terms of the Arbitration Act. The decision is based on the result of the "strike or arbitration" ballot, among members of affiliated unions, which showed a heavy majority in favour of arbitration.

N.U.R. Wage Claim

After the decision of the A.S.L.E.F. and the R.C.A. announced at a meeting of the Railway Staff National Council on July 11, that neither union could accept the offer of the Railway Executive to increase the rate of pay of the minimum rated worker by 3s. 6d. a week, N.U.R. delegates at Morecambe on July 12 instructed Mr. J. B. Figgins to take steps to refer the matter to the Railway Staff National Tribunal.

This is the next stage in the machinery of negotiation for railway staff, the Chairman of the Tribunal being Sir John Forster, who is President of the Industrial Court. Sir John was also Chairman of the Board of Conciliation appointed by the Minister of Labour to consider the previous claim of the N.U.R. for a flat-rate increase of 10s. a week and for enhanced payment for all time worked after 12 noon on Saturdays. This claim was rejected by the Board.

A statement was issued on July 15, on the termination of the annual conference of the N.U.R., stating that the conference had decided to instruct the Executive Committee to submit an application for a substantial increase in wages for all members of the union at an appropriate date.

R.C.A. Wage Claim

At the same time the Railway Clerks Association has decided to lodge a claim with the Railway Executive for an increase of 7½ per cent. in the salaries of all grades.

The R.C.A. has previously refused to be associated with the last two general claims made by the N.U.R. on behalf of all railway workers. The grounds for doing so were, first, that it had accepted the findings of the Court of Inquiry which sat in June, 1947, and the settlement of differentials which had been arrived at in February, 1948; second, the Association had agreed to support the T.U.C. policy on the White Paper on personal incomes, costs, and prices; although not satisfied with existing salaried scales, members of the Association had instructed the Executive to prepare a new wages charter, but left it to the Executive Committee to choose the appropriate time for its presentation.

New A.S.L.E.F. Claim

The Associated Society of Locomotive Engineers & Firemen announced on July 17 that it had presented a claim for a wage increase of not less than 15 per cent. for all its members. This claim, which has been put to both the Railway and London Transport Executives, involves increases rising to over £1 a week for drivers and 17s. 6d. for firemen on maximum rates.

Regarding its rejection of the Railway Executive offer for lower-paid workers, the A.S.L.E.F. refers to the Ministry of Labour inquiry three years ago which advocated an examination of railway workers' grading with a view to a more accurate assessment of the relative value of the different work performed. "This," it states,

"has not been done. Even after the small advance as a result of negotiations in February, 1948, the maximum rate of pay to which a driver can look forward is only £6 18s. a week, the maximum for a fireman being £5 17s. The Society is not in a position to entertain any offer which would have the effect of worsening in any degree the present totally unsatisfactory position with regard to relativity in railway wage rates."

Questions in Parliament

Transport Commission Report

Mr. Peter Thorneycroft (Monmouth—C.) on July 17 asked the Minister of Transport when he expected to receive the report of the Transport Commission for 1949.

Mr. David Renton (Huntingdon—Nat. Lib.) also asked the Minister of Transport when he proposed to publish the British Transport Commission annual report for 1949.

Mr. Alfred Barnes (Minister of Transport): I am informed that the preparation of the report and statement of accounts of the British Transport Commission for 1949 is now almost complete and that the printing of it is well in hand. I hope to make formal arrangements for its presentation to the House before the summer recess, and to publish it in September.

Mr. Thorneycroft: Do I understand that it will be in the hands of Members before we rise for the summer recess?

Mr. Barnes: Not the actual accounts.

Mr. Thorneycroft: If the accounts for 1949 are not available to the House until September, 1950, it puts the House into an impossible position, because we cannot discuss them. Will the Minister convey our displeasure to Lord Hurcomb?

Mr. Renton: Is the Minister aware that this is likely to be again a voluminous report, and that if Members are to learn about integration they will require the best part of their summer holidays in which to make the study?

Mr. Barnes: It was desirable that, if possible, we should have had these accounts presented before the House rises. Subsequently, that was found to be impossible. There have been special difficulties just now. One factor has been that the principal finance officers have been involved very considerably in the London Interim Passenger Charges Scheme.

Captain H. F. C. Crookshank (Gainsborough—C.): Will the Minister consider if it is possible to separate the report and the accounts and publish each of them separately?

Mr. Barnes: We could not have discussed the report probably this side of the summer recess, and I think it is essential that these accounts and reports should be completed fully before they are finally published.

Festival of Britain Train Services

Mr. Charles Taylor (Eastbourne—C.) on July 12 asked the Lord President of the Council what steps he was taking to see that towns outside London, especially south and south-east coast seaside resorts, were given early and late trains so that they could accommodate visitors to the 1951 Festival unable to get accommodation in London.

Mr. Herbert Morrison: The Festival of Britain Office and the Railway Executive are in close touch about Festival train services.

Mr. Taylor: Does not the Lord Presi-

dent realise that if these services are not advertised in America and elsewhere people will not be able to make the necessary arrangements?

Mr. Morrison: Mr. Taylor really must not incite me to spend too much money.

Beira Convention

Mr. A. E. Baldwin (Leominster—C.) on July 12 asked the Secretary of State for Foreign Affairs whether the terms of the recent 20-year convention on the port of Beira were available to the public and whether he would give an assurance that the terms of the treaty were discussed with the Minister of Defence before final agreement.

Mr. Kenneth Younger (Minister of State): The Beira Convention, except for the exchange of letters between the Mozambique, Beira, and Rhodesian Railways was published as a Command Paper on June 29 last. The Convention relates primarily to the expansion of the existing port facilities at Beira to enable the port to handle increasing commercial traffic to and from Central Africa. All relevant factors, including strategic aspects, were considered before negotiations were opened.

Cross-Channel Passengers' Baggage

Mr. Barnett Janner (Leicester North West—Lab.) on July 13 asked the Chancellor of the Exchequer whether he would arrange with the Customs authorities to examine passenger luggage in train ferries en route as was done by the French Customs and not leave such examination until arrival at destination.

Mr. Douglas Jay (Financial Secretary to the Treasury), in a written answer, stated: I am satisfied that the present arrangements, which leave passengers undisturbed until they reach Victoria Station, meet the general convenience of train-ferry passengers.

Railway Arrangements for Royal Highland Show

The annual show of the Royal Highland & Agricultural Society, which was held at Paisley from June 22 to 25, had the advantage this year of the railway stations being close to the showground. This permitted freight traffic being dealt with at Greenlaw and Canal Stations, Paisley, and passenger traffic at Gilmour Street and St. James'. St. James', however, required considerable adaptation for the occasion, and this was carried out well in advance of the show date by the staff of the Civil Engineer, Scottish Region.

In this preliminary work the down platform, about 190 yd. long and of timber construction, was replaced by a standard type permanent platform consisting of a pre-cast concrete unit wall with an ash filling behind. The facilities on the up platform were also extended, and the whole station generally repaired and repainted. Special provision was also made here for servicing railway road motor vehicles used in connection with the show and for washing out the floats engaged in the conveyance of livestock.

In the preparatory stages in the showground, over 9,000 railway sleepers weighing 615 tons were used in laying vehicle tracks throughout the main avenues, and the conveyance of this material alone required 153 wagons.

From June 12, exhibits were arriving in increasing volume, and delivery of 1,400 tons of rail-borne traffic and sundry equip-

ment was effected during the ensuing five days. This total included 140 railway containers, weighing in the aggregate 280 tons; 156 wagon loads of agricultural implements, and so on, with a combined weight of 450 tons; and a large quantity of small sundry items, among which were over 400 consignments weighing 20 tons which had been brought in by passenger train.

The arrival of livestock on June 19 necessitated special arrangements, and for the road transit of the larger types from the station a fleet of sixteen livestock floats was available, and fully engaged.

Attendances were well maintained, and during the four days over 30 long-distance excursion trains were run from all parts of Scotland. In all, 45,000 passengers—approximately one-third of the full attendance—were conveyed by rail.

Dispersal of the exhibits at the close of the show brought a further period of intense activity in the loading and despatch of three special trains on June 23 conveying livestock for destinations south of Carlisle, the East Coast, Aberdeen, and the north respectively. Next day came the start of the transfer of exhibits to the Royal Agricultural Society's show at Oxford, which required 150 wagons in four special trains.

Institution of Railway Signal Engineers

The Institution of Railway Signal Engineers paid a visit to the power and automatic signalling installations between Liverpool Street and Chadwell Heath, Eastern Region, on June 30. The party was led by the President, Mr. F. Horler, supported by the Vice-Presidents, Mr. S. Williams and Mr. T. S. Lascelles. Mr. A. Moss, Signal & Telecommunications Engineer, Eastern Region, and Mr. F. L. Castle and Mr. R. Dell, Past Presidents, were also among those present.

The party first visited the relay and operating rooms at the new signalboxes at Liverpool Street terminus and at Stratford Station. The Liverpool Street installation is a route relay panel system, provided by the Siemens & General Electric Railway Signal Co. Ltd. and the next signalbox, at Bethnal Green, is of similar construction. This work covers an area formerly requiring six mechanical boxes containing 377 working levers.

The new box has 318 route switches on three panels, fixed alongside each other to facilitate operation; there is no pre-setting. The regulator seated in the centre of the box facing the main panel can see thereon the condition of all lines concerned, which are equipped with a.c. track circuits. Every shunt movement is signalled, and the installation is one of the most complete of this type.

The track indications are carried right through to Bethnal Green to facilitate rearrangement of movements in the event of a train finding difficulty in ascending the bank. The installation necessitated the use of some quite elaborate temporary equipment while the changeover from the old signalboxes was being made.

At Stratford the large "NX" type route relay panel was examined. This was built by Metropolitan-Vickers G.R.S. Limited, and marks an interesting development in British railway signalling; the only previous example here of this type of working was the small installation at Brunswick, Cheshire Lines, provided before the 1939-45 war.

Stratford is at the point of divergence of

the main Colchester and Cambridge lines and numerous local and goods line connections, and the main area of operation is divided between two panels which deal with 180 routes, exclusive of special controls, and replace 360 mechanical levers in the old boxes. About 1,000 trains are handled daily. As a result of a recent alteration in layout, it was necessary to replace a part of a panel, which, with the re-wiring involved, was completed in the space of only 12 hr.

At Chadwell Heath, the power station feeding the section from Stratford (Maryland) to Gidea Park, where the signalling work was carried out by the Westinghouse Brake & Signal Co. Ltd., was inspected. The signalbox contains a combined panel and mechanical lever layout, which was thought sufficient for the conditions there, and at Goodmayes another complete panel installation was seen, arranged in desk form.

Subsequently an informal supper was held at Chadwell Heath, when Mr. Horler was in the chair, and was supported by Mr. A. R. Dunbar, Divisional Operating Superintendent, Eastern Region, and Mr. H. W. Few, District Operating Superintendent at Stratford.

SOUTH AFRICAN RAILWAYS CATERING LOSSES.—Withdrawal of restaurant cars in which heavy losses are being incurred is one of the measures being taken to reduce the present losses of the S.A.R. Catering Department. The total loss for 1949-50 was nearly £150,000, an improvement, however, on the preceding year.

B.E.A.C. DEFICIT LESS THAN EXPECTED.—In the July issue of the *B.E.A. Magazine*, Lord Douglas of Kirtleside, Chairman of the British European Airways Corporation, says that the deficit for 1949-50 worked out at £1,363,594, less than was expected, and less than half the loss incurred in the previous year. Mr. Peter Masefield, Chief Executive of B.E.A., writes that this is encouraging in view of increased costs as a result of devaluation. Mr. Masefield adds that, comparing the combined figures for April and May, 1950, with the same months last year, there was an increase of 28 per cent. in traffic and 32 per cent. in revenue. Expenditure was up by 20 per cent.

BRITISH STANDARDS INSTITUTION.—At the annual general meeting of the British Standards Institution on July 11, Sir William Larke presiding, Sir John Anderson was elected President for the coming year. Mr. Roger Duncalf, Chairman of the General Council, said that the B.S.I. had distributed nearly three quarters of a million copies of British Standards and participated in a number of exhibitions, and that the library and information service had developed substantially. Reference was made to the growth in certification marking and to the work of the B.S.I. in securing approval to electrical appliances for export to Canada. During the year a further Overseas Committee had been set up in Rhodesia; the recognition of the value of British Standards overseas was an increasing aid to exporters. Sir William Larke, retiring President, emphasised the need for the B.S.I. to remain an independent body, supported by all sections of industry and Government under the direct control of an elected council, and expressed the view that industry must recognise its responsibilities for maintaining this central organisation.

Notes and News

Railway Draughtsmen Required.—British Timken Limited, of Birmingham, have vacancies for railway draughtsmen. See Official Notices on page 83.

Assistant Traffic Superintendent Required.—An assistant traffic superintendent, between 25 and 35 years of age, is required by the railway department of the Federation of Malaya for one tour of three years with prospect of permanency. See Official Notices on page 83.

Assistant Accountant Required.—An assistant accountant, between 25 and 35 years of age, is required by the railway department of the Federation of Malaya for one tour of three years, with prospect of permanent and pensionable employment. See Official Notices on page 83.

Skefko Ball Bearing Co. Ltd.; Leicester Office.—The Skefko Ball Bearing Co. Ltd., Luton, announces that the address of its Leicester branch office has been changed from Hannam Court Buildings, Charles Street, to 167, Belgrave Gate. The telephone number (Leicester 58722) is the same.

Aer Lingus Record.—The highest passenger load figure ever reached on Aer Lingus services in June was recorded last month, with over 20,000 passengers. By the London route alone 9,200 passengers were carried. Passenger load increases ranged from 30 to 68 per cent. on the Glasgow, Paris, Birmingham, and Isle of Man routes, compared with June, 1949. Services were increased on July 1 from 320 to 440 flights a week to cope with increased traffic.

Currency Restrictions Relaxed.—It is now no longer necessary to apply to the Currency Authorisation Office in London for travel to Belgium and Luxemburg to obtain the £50 basic travel allowance; applications may be made direct to a bank or travel agent in the same way as for travel to other O.E.E.C. countries. For the present, however, it will still be necessary to apply to the Swiss Currency Authorisation Office to obtain the basic allowance for Switzerland.

Steel Exports Company Formed.—Richard Thomas & Baldwins Limited and the Steel Company of Wales Limited announce the formation of a company, R.T.S.C. Exports Limited, which will handle the export sales of mild steel flat-rolled products manufactured by them and their subsidiaries. The directors are Mr. H. S. Spencer, Chairman, joint Assistant Managing Director of Richard Thomas & Baldwins Limited, and Mr. E. Julian Pote, Managing Director, Steel Company of Wales Limited. The secretary is Mr. J. Idris Roberts, and the registered office is at 47, Park Street, London, W.1.

Cheap Day Excursions to Belgium.—In conjunction with the Belgium Marine, the Southern Region of British Railways will issue cheap day return tickets from London and Dover to Ostend this summer at return fares of 60s. from London, or 40s. from Dover. The tickets will be available by the 11 p.m. service from Victoria every Friday from today (July 21) to September 8 inclusive, arriving in Ostend at 6 a.m. Saturday mornings. On the return journey passengers will embark at Ostend on Saturday evenings for the midnight sail-

ing, due Dover 5 a.m. Sunday morning, arriving Victoria 7.20 a.m. Passengers must have passports and comply with currency regulations.

Kitchen & Wade Limited.—The net consolidated profit of Kitchen & Wade Limited for the year ended March 31, after deduction of tax, was £46,386, compared with £34,677 for the previous year. Taxation absorbed £70,842 (£75,365) and writing off new plant £10,095 (nil). The sum of £10,000 (as for the preceding year) is allocated to general reserve. A dividend of 25 per cent. is again recommended.

Glyn, Mills & Company.—The statement of assets and liabilities as at June 30, 1950, of Glyn, Mills & Company shows total assets of £83,615,307, against £89,352,620 for the preceding year. Included in the total are coin, bank notes, and balance at Bank of England, £5,939,448 (£5,934,616); cheques in transit, etc., £3,767,702 (£3,257,674); money at call and short notice, £19,015,000 (£17,911,000). Investments include £20,766,195 (£21,024,967) in British Government Securities. Bills discounted amounted to £6,560,283 (£11,591,044) and Treasury deposit receipts £2,500,000 (£7,500,000). Advances to customers and other accounts stand at £17,238,616 (£15,087,245). Current, deposit, and other accounts total £75,106,216 (£81,318,367), and acceptances and confirmed credits on account of customers £1,697,094 (£938,852).

Travelling Saleswomen.—As was reported in our issue of July 7 the Eastern Region of British Railways has recently introduced a travelling sales service for holiday runabout tickets in the Norwich district. These holiday "runabout" tickets provide unlimited travel within defined areas and are available to holiday makers at low charges. They were very popular before the war and are once again in strong demand. Previously, passengers had to apply for these tickets on arrival at their destination, but salesgirls now travel in certain trains to popular East Anglian coast resorts, thus

enabling tickets to be purchased in comfort. It is hoped that this new service will do much to draw the attention of overseas visitors and other travellers to this cheap facility for unlimited rail travel.

Pinchin Johnson & Associates Limited.—A consolidated net profit of £541,811 is announced by Pinchin Johnson & Associates Limited for the year ended March 31, after providing for tax, compared with £597,123 for the previous year. United Kingdom tax was £490,000 and overseas tax £169,540 (against £500,000 and £179,312 respectively). The distribution is maintained at 25 per cent., with a final dividend of 17½ per cent.

Railway Students Association.—Following the success of its social motorcoach tour from Tunbridge Wells last year, the committee of the Railway Students Association, London School of Economics & Political Science has decided to run a similar trip on September 16. Provisional arrangements have been made for a tour commencing from High Wycombe to include the best of the Chiltern country, with a halt for tea at Amersham.

International Twist Drill Company.—The net profit for 1949 of the International Twist Drill Co. Ltd. was £299,955, compared with £41,315 for 1948, after deduction of £31,233 (£36,484) tax. A final dividend is recommended of 8½ per cent. on the capital increased by a 500 per cent. share bonus, making with the interim dividend paid on the old capital a total of 58½ per cent. for 1949, equivalent to the 100 per cent. previously paid on the old capital. In addition, an interim of 8½ per cent. has been declared on account of 1950.

Omnibus Passengers' Protection Association.—At the recent annual meeting of the Omnibus Passengers' Protection Association Mr. C. V. H. Vincent, Chairman of the Association, said that it was 2½ years since the North-East Area Scheme had opened their eyes to the danger that local bus services would go the way of London's

Transport and become part of a State monopoly. It was then the O.P.P.A. was born; some of them saw the threat and were convinced that many would join in the fight if they realised that the Transport Act, 1947, contained not only the threat, but also weapons of defence. Mr. Vincent then reviewed the growth of the Association.

Further Step in Toton Mechanisation.—A further step was taken on July 2 in connection with the mechanisation of Toton Up Yard, the scheme for which was prepared by the former L.M.S.R. and approved by the B.T.C., when the London Midland Region of British Railways replaced the existing timber signalbox at Toton Centre by a modern mechanical box twice its size. The new box is the last of four to be put into operation at Toton. The other three are at Toton East Junction, opened on May 29, 1949, Stapleford & Sandiacre, opened on September 4, 1949, and at Toton

Junction, opened on April 2, 1950. This latest box—Toton Centre—is situated midway between the north and south ends of the yard and is on the eastern side of the five running lines at this point. In addition to up and down through passenger and freight trains and local trips the box deals with a considerable number of engine movements as it controls the exit from the up yard of terminating freight train engines proceeding to the motive power depot on the opposite side of the main lines.

Badge for B.T.C. Police Force.—Members of the police force of the British Transport Commission have recently been issued with a new badge to be worn in their helmets. The use of the crown for



the badge, which is illustrated in the photograph reproduced above, has been specially authorised by H.M. the King. The policewomen of the B.T.C. wear a silver star with a blue enamelled inset.

Transport Course at Ashridge.—The programme for the weekend course in "Transport Problems," which is to be held at Ashridge College from September 8 to 11, with the co-operation of the Institute of Transport, will include papers on "The Economics of the Transport Industry," by Mr. G. J. Ponsonby, Reader in Commerce, University of London; "The British Transport Commission," by Mr. M. A. Cameron, Principal Traffic Officer, British Transport Commission; "Civil Air Transport," by Mr. J. W. S. Brancker, General Manager (Commercial), B.O.A.C.; and "Keeping London Moving," by Mr. A. B. B. Valentine, Member, London Transport Executive. The course is open both to members of the Institute of Transport and to non-members.

North Western Road Car Company.—In his address to the recent annual general meeting of the North Western Road Car Co. Ltd., Mr. J. W. Womar, Chairman, said that the increased tax on petrol and fuel oil was most penal for road transport. It was hard to understand what led the Government at this time, when maintenance of low prices was so important, to impose a tax increase of 100 per cent. on an article which was the life blood of road transport—an increase which must reflect on the cost of living, with particular hardship to the travelling public. Regarding nationalisation, as initiation of Area Schemes was at the discretion of the B.T.C. and not mandatory, he hoped that the



Selling "runabout" tickets in an Eastern Region train (see paragraph above)

OFFICIAL NOTICES

Crown Agents for the Colonies

ASSISTANT ACCOUNTANT required by the Railway Department of the Federation of Malaya for one tour of three years with prospect of permanent and pensionable employment. Salary, including expatriation pay, is payable in local currency equivalent at the present Government rate of exchange to £714 a year rising to £1,078 a year plus cost-of-living allowance, equivalent to £210 a year for single men and up to £434 a year for married men. Commencing salary according to qualifications and experience. Free passages. Liberal leave on full salary. Candidates between 25 and 35 years of age must have had seven years training and practical experience in the Accounts Department of a Railway and be fully conversant with Goods and Coaching Audit work. Must be familiar with preparation of Revenue and Expenditure Accounts and Returns, preparation and use of statistical systems, control and stock recording of stores costing as applied to Mechanical Engineering Workshops. Apply at once by letter, stating age, full names in block letters, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/N/23277/3E on both letter and envelope. The Crown Agents cannot undertake to acknowledge all applications and will communicate only with applicants selected for further consideration.

RAILWAY DRAUGHTSMEN required for design of Roller Bearing Axlebox Equipment for Locomotives and Rolling Stock. Please apply by letter to **BRITISH TIMKEN LIMITED**, Cheston Road, Aston, Birmingham, 7.

RAILWAY MAINTENANCE PROBLEMS. By H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth, 8½ in. by 5½ in. 82 pp. Diagrams, 5s. By post 5s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

TRANSPORT ADMINISTRATION IN TROPICAL DEPENDENCIES. By George V. O. Bulkeley, C.B.E., M.I.Mech.E. With chapters on Finance, Accounting and Statistical Method. In collaboration with Ernest J. Smith, F.C.I.S., formerly Chief Accountant, Nigerian Government Railway. 190 pages Medium 8vo. Full cloth. Price 20s. By post 20s. 6d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY SIGNALLING AND COMMUNICATIONS INSTALLATION AND MAINTENANCE. A practical guide, especially intended to help Signal Inspectors, Installers, Fitters, Linesmen, Draughtsmen, and all concerned with installing and maintaining Signal, Telegraph, and Telephone Equipment. 416 pp. Many illustrations. Cloth, 8s. By post 8s. 6d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

Crown Agents for the Colonies

ASSISTANT TRAFFIC SUPERINTENDENT required by the Railway Department of the Federation of Malaya for one tour of three years with prospect of permanency. Commencing salary, including expatriation pay, according to qualifications and experience, in the scale \$510 a month rising to \$770 a month. Plus cost-of-living allowance for single men \$150 a month and for married men up to \$310 a month. Malayan dollar = 2s. 4d. Free passages. Liberal leave on full salary. Candidates between 25 and 35 years of age must have had thorough training and considerable experience of traffic operating and considerable work on a railway, with a sound knowledge of railway rules and regulations and of the principles of station accounting. Apply at once by letter, stating age, full names in block letters, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/N/23279/3E on both letter and envelope. The Crown Agents cannot undertake to acknowledge all applications and will communicate only with applicants selected for further consideration.

INTERNATIONAL RAILWAY ASSOCIATIONS. Notes on the work of the various associations concerned with international traffic, principally on the European Continent. 2s. By post 2s. 2d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

Commission and the Minister of Transport would have regard to the clearly expressed views of the inhabitants of this country as had been indicated by their vote in the last election.

New Looks for Electric Locomotives.

In an editorial article in our issue of July 14, on page 33, there was a reference to the Newport-Shildon locomotives of the former N.E.R. in which it was stated that these are now "being reconditioned for banking duties on the Manchester-Sheffield-Wath electrification scheme." We are informed, however, that only one of these locomotives has been reconditioned, and is in service on the Ilford line, and that all the others are being scrapped.

Increased Postal Rates.—The Postmaster-General, Mr. Ness Edwards, on July 12, announced in the House of Commons that in order to maintain a reasonable degree of parity with railway parcel rates and to reduce losses falling on the parcel post service, he proposed to increase the inland parcel post rates as from July 31, 1950. Inland parcels are to cost a penny more up to four pounds in weight, and twopence more thereafter. It is estimated that 60 per cent. of all parcels despatched will cost only 1d. more.

North Cornwall Line Blocked for Seven Hours.—Rail traffic to and from North Cornwall was held up for nearly seven hours on July 15 when two goods wagons became derailed and blocked the Okehampton-Padstow line between Maddaford Moor Halt and Venn Down Gate. The accident, stated to be due to a broken axle, involved the 3.30 a.m. goods train from Exmouth to Bude and occurred about 8.35 a.m., normal working being restored at 3.30 p.m. While the line was blocked buses worked a shuttle service between Okehampton and Ashbury stations.

Southampton Passenger Terminal Praised.

—When Lord Lucas, Parliamentary Secretary to the Minister of Transport, inspected the new £750,000 ocean passenger terminal at Southampton recently, he said it was "the finest terminal project conceived in the country," and he suspected it of being the finest in the world. Lord Lucas added that at a port such as Southampton, which was 75 miles from London, where the majority of passengers wanted to go, a terminal building had to embody a railway station, restaurant, and many other

facilities for the convenience of passengers between their arrival in a ship and their departure for the capital. A building of this type was what Southampton had needed for years. Lord Lucas was accompanied on his tour by Mr. C. P. Hopkins, Chief Regional Officer, Southern Region, British Railways, and Mr. R. P. Biddle, Docks & Marine Manager, and senior dock officials.

Krupps Contract for South Africa.—Mr. P. Sauer, South African Minister of Transport, stated on July 12 that no question of prejudice arose over the acceptance of the tender of Krupps for the supply of 100 shunting locomotives for the South African Railways, as reported in our July 14 issue. The firm's tender of £1,696,000 was £250,000 lower than the lowest from Britain and more than £470,000 lower than manufacture in South Africa by an overseas contractor. He said that there was no justification for paying nearly £500,000 more for having the engines built in South Africa, although he would have been willing to pay 10 per cent. more.

Great Northern Railway Centenary Celebrated.—A special train, consisting of six Pullman coaches hauled by a Class "A1" Pacific-type locomotive, left Kings Cross for York on Sunday, July 16, to mark the opening a hundred years ago of the main line from London to York of the Great Northern Railway. On the journey north the train left the present-day main line at Warrington to follow the original track to York of the old Great Northern Railway. During the return journey the train shattered a level-crossing gate north of Selby, and passengers collected pieces of wood as souvenirs during the four minutes that the train was delayed by the incident. The front of the engine bore a large portrait of Edmund Denison, the first Chairman of the Great Northern Railway.

Increased Bank Holiday Services on Western Region.—Plans for August Bank Holiday rail travel for British Railways, Western Region, include the running of over 260 special main-line trains during the period August 4 to August 8. Services to the west of England, already augmented for the summer holiday period, will be further increased by 12 special trains from Paddington over the Friday and Saturday preceding the Bank Holiday, and 14 additional trains will run from Paddington to South Wales during these same two days.

Various excursions have been arranged, including an evening excursion on Saturday, August 5, from Paddington, Ealing Broadway, and suburban stations to Windsor, with a Thames steamer trip, and a half-day excursion on Bank Holiday Monday from Paddington and Ealing Broadway to Bath and Bristol.

Historical Model Railway Society.—The constitution provisionally drawn up for the Historical Model Railway Society was formally approved at a meeting held at Chessington on June 3. The first Executive Committee consisting of the following was elected:—Messrs. J. N. Maskelyne (Chairman), H. Dear, J. S. Davis, E. F. Carter, A. J. Thorn, R. G. Dettmar, and D. J. W. Brough. Mr. A. P. Hancox, of 30, Gillian Park Road, Sutton Common, Surrey, was elected Honorary Secretary of the Society.

Timothy Hackworth Centenary.—On Sunday, July 9, the Shildon Works of the North Eastern Region of British Railways was open to the public from 2 p.m. to 8 p.m., on the occasion of the centenary of the death of Timothy Hackworth. Mr. B. X. Jessop, Assistant Chief Regional Officer, was present. An admission charge was made of 6d. for adults and 3d. for children and the proceeds are being given to charities. A souvenir booklet published by the Shildon Timothy Hackworth Centenary Committee is reviewed elsewhere in this issue.

New Organisation of London Transport Central Road Services.—Under the London Transport Executive South London tram conversion programme, which is to commence in October, the Central Bus and Tram & Trolleybus operating sections have been amalgamated in a single organisation under the Operating Manager (Central Road Services), to which reference is made in our personal columns. The new organisation comprises four divisions—North West, North East, South West and South East—with divisional offices at Dollis Hill, Manor House, Vauxhall, and Camberwell respectively. There are four corresponding central road services engineering divisions in the department of the Chief Mechanical Engineer (Road Services), with boundaries similar to those of the operating divisions, and with headquarters at the same offices. The operating divisions will be sub-

divided into 28 districts, each under a District Superintendent. The engineering divisions will be sub-divided initially into 30 and later into 32 districts, each under a District Engineer.

British Road Services: Local Joint Committees.—The Chairman of the Road Haulage Executive, Major-General G. N. Russell, has sent a message to the chairmen of local joint committees on the occasion of their inaugural meetings. After outlining the history of British Road Services staff consultative machinery, he praises the work of local *ad hoc* Joint Committees established before election of the present, more formal, bodies, to which he extends his best wishes and those of the Executive.

New Port of Paris.—The new Port of Paris, which will eventually cover nearly 1,000 acres, with seven miles of quay, was officially opened on July 10 in the presence of the Minister of Commerce & Industry, M. Louvel. The new port, on waste ground in the loop of the Seine downstream from the city, will include six docks. Sea-going vessels drawing 15 ft. and of 1,500 tons burden will be able to use the port when the channel in the lower Seine has been deepened and war-damaged bridges re-built. Railways link the port area with the Northern and Western Regions of the French National Railways.

Compensation for Road Hauliers.—The first case concerning compensation to be paid to a road haulage undertaking acquired under the Transport Act was heard on July 17 by the Transport Arbitration Tribunal. The company concerned was Liss Transport which had not been able to agree the value of its property with the Road Haulage Executive. Mr. T. G. Roche, who appeared for the company, stated that the business was founded in 1923 and was formed into a company in 1936. The only matter in dispute was the value of the buildings and freehold land. Value placed on the property by the company was £16,500. Mr. Hunter Brown, for the Road Transport Executive, submitted that a fair value for the property would be £11,000. The decision of the Tribunal will be announced later.

Railway & Traders' Conference.—Mr. C. E. Jordan, Federation of British Industries, took the chair on July 7 at a meeting in Birmingham of the Railway & Traders' Conference for the Birmingham, South Staffordshire, East Worcestershire, and North Warwickshire area. The meeting was attended by 22 representatives of Chambers of Commerce and trade associations, while the railway panel consisted of the local District Commercial Officers, headed by Mr. L. C. Brittlebank, District Goods Superintendent, L.M.R., Birmingham. Mr. Jordan said that he regarded the activities of the conference as filling a real need in providing an opportunity for serious discussion of common problems. Such meetings constituted a recognition of the essential partnership and identity of interest between British Railways and the trading community. Mr. Brittlebank spoke of the pride felt by members in being associated with a body which had functioned since 1923 and expressed the conviction that the meetings were now more valuable than ever. No other transport system could handle the volume of freight and numbers of passengers which it was the task of British Railways to carry and it was their constant aim to extend and improve their services.

Railway Stock Market

Steadiness in stock markets in the absence of heavy selling again prevailed. Buyers were very cautious, and price movements generally small and irregular, though a moderate rally in British Funds tended to help other sections. The absence of heavy selling was attributed to the prevailing assumption among investors that the war in Korea will be localised.

The factors of the higher costs arising from the uptrend in metal and material prices, and the prospect of even higher taxation, mean that industrial companies may have still more difficult problems to face. Even now, many major companies are in need of more capital to finance higher stocks and provide for expansion. Taxation takes so large a proportion of earnings that it is impossible to build up enough reserves to provide for requirements in existing conditions. Uncertain markets and dividend limitation make it very difficult to raise capital on satisfactory terms except in the form of debentures or other prior-charges ranking in front of ordinary shareholders. Furthermore, in recent months some companies have found that debentures can be placed privately among financial institutions and insurance companies on better terms than can be obtained by a public issue in the market.

Foreign rail stocks have been more active, with Great Western of Brazil in demand and higher at 151s. 3d. on market expectations that the total pay-out per share will prove to be nearer 160s. than the official estimate of at least 155s. On the other hand, there was a little selling of Leopoldina stocks, though in all cases they are regarded as being below their eventual pay-out values. The ordinary failed to hold an earlier improvement and eased to 9½, while the preference was 26½, the 4 per cent. debentures 94, and the 6½ per cent. debenture 133. Leopoldina 5 per cent. debentures at 87 were also lower with the ordinary units at 1s. 1½d.

San Paulo 10s. units eased to 14s. 9d. Antofagasta turned steadier at 6, with the preference stock better at 3½. Brazil Rail gold bonds eased to 39. Central Uruguay ordinary was 10, Manila "A" debentures 65, and the preference shares 5s. 9d. There was more selling of United of Havana stocks in the absence of further news

of negotiations in Cuba; the 1906 debentures after a small rally reacted afresh to 18½. La Guaira Caracas marked 67, Tallal shares 14s. 9d., International Railways of Central America no par value shares were \$10½, and Guayaquil & Quito 5 per cent. first bonds changed hands around 67. Nitrate Rails eased to 73s. 9d.

Canadian Pacifics have fluctuated with the trend of Wall Street, and were lower on balance at \$27½. French rail sterling bonds kept steady, with Midi and Orleans both at 95½ and Seine 100.

There was again very little business passing in road transport shares, which remained firmly held with, in many cases, little stock available in the market at around current prices. West Riding were again fairly active and slightly better on balance at 61s., with Southdown at 113s. 9d., Lancashire Transport 78s., and S.M.T. shares active around 15s. 9d. B.E.T. deferred stock has fluctuated around 43s.

Iron and steels kept firm. The new John Summers debentures were at 32s. 6d. premium; they are as yet only £25 paid and were issued at £98, and in the event of nationalisation will have rights of repayment at par (£100). The market believes that before long other steel companies in need for more capital to finance expansion plans will consider issuing debentures with similar rights of repayment. Hadfields have strengthened to 25s. 9d. on hopes that the company's request for segregation of non-steel assets has been approved. But Colvilles at 34s. 3d., United Steel at 26s. 3d., and South Durhams at 30s. 6d. have lost a further part of recent gains. Stewarts and Lloyds were 54s. 7d., Dorman Long 29s. 6d., and Guest Keen 44s. 9d. B.S.A. at 28s. kept firm on market talk of higher dividend possibilities. T. W. Ward were steady at 60s. 9d.

Shares of locomotive builders and engineers again showed movements of only a few pence. The yields in most cases are attractive, and the market believes in good prospects of dividends being maintained. Vulcan Foundry changed hands around 19s. 9d. Beyer Peacock were 22s. 1½d., Gloucester Wagon 52s. 6d., North British Locomotive 17s., Wagon Repairs 16s., and G. D. Peters 17s. Birmingham Carriage were 27s. 9d., and Hurst Nelson 57s. at Glasgow.

Traffic Table of Overseas and Foreign Railways

Railway	Miles open	Week ended	Traffics for week		No. of week	Aggregate traffics to date	
			Total this year	Inc. or dec. compared with 1948/49		Total	Increase or decrease
						1949/50	
South & Central America	Antofagasta ...	811	9.7.50	£ 55,400 —	£ 10,970 27	£ 1,597,554 —	£ 189,400
	Costa Rica ...	281	Apr., 1950	c852,959 —	c156,386 43	c8,449,421 —	c1,679,807
	Dorada ...	70	Apr., 1950	39,295 +	9,554 17	165,766 +	45,455
	Inter. Ctl. Amer. ...	794	May, 1950	\$1,083,611 —	88,330 21	\$5,914,799 +	\$466,171
	La Guaira ...	222	June, 1950	\$58,956 —	\$36,630 26	\$503,317 —	\$148,198
	Nitrate ...	382	30.6.50	24,226 +	5,297 26	236,620 +	16,977
	Paraguay Cent. ...	274	7.7.50	£210,310 +	£66,850 1	£210,310 +	£37,124
	Peru Corp. ...	1,050	June, 1950	\$6,883,000 +	\$2,164,878 52	\$71,217,058 +	\$20,580,508
	.. (Bolivian Section)	66	June, 1950	Bs. 4,067,000 —	Bs. 3,531,834 52	Bs. 110,749,664 +	Bs. 7,004,480
	Salvador ...	100	Febr., 1950	c239,000 —	c72,000 35	c1,300,000 —	c139,000
Taltal ...	154	June, 1950	19,090 +	7,235 52	173,510 +	61,900	
Canada	Canadian National†	23,473	May, 1950	15,845,000 +	2,450,000 21	69,391,000 +	3,999,000
	Canadian Pacific†	17,037	May, 1950	10,674,000 +	517,000 21	48,324,000 +	395,000
Various	Barsi Light* ...	167	June, 1950	30,675 +	6,502 13	90,937 —	2,242
	Egyptian Delta ...	607	31.5.50	18,022 —	1,930 9	104,633 —	12,506
	Gold Coast ...	536	May, 1950	256,113 +	27,427 9	484,862 +	30,111
	Mid. of W. Australia	277	Apr., 1950	32,976 +	2,904 43	308,849 +	18,472
	Nigeria ...	1,900	Jan., 1950	502,360 +	38,978 44	5,017,814 +	266,573
	South Africa ...	13,347	17.6.50	1,639,356 +	158,301 13	17,458,221 +	1,260,769
	Victoria ...	4,744	Mar., 1950	1,974,774 +	426,993 39	—	—

* Receipts are calculated at 1s. 6d. to the rupee

† Calculated at \$3 to £1